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In this interview, Mr. Constantinos Caroussis, Director of Chios Navigation talks about the upcoming Posidonia Exhibition, while also sharing his thoughts on the collective representation of the Greek shipowning community and the effectiveness of the hands-on management style in the modern era. Mr. Caroussis, hailing from the seafaring island of Chios, also presents his views about the competitiveness of the Greek registry and the quality of Greek seafarers.

**GREEK SHIPOWNERS SPEAK WITH ONE VOICE AND ARE VERY MUCH UNITED IN THEIR VIEWS**

1. The Caroussis family has a long-standing tradition in the City of London. In recent years many traditional maritime families and international entrepreneurs based in London feel discouraged by the approach that the revenue authorities have adopted towards all foreign entities. Has the Chancellor of the Exchequer understood the significance of the maritime industry in the City of London? The majority of London based shipping Agency companies blossomed after the second World War, especially after the IRS made it difficult for such businesses to continue to operate in the USA. These companies were able to conduct their business successfully in London, taking full advantage of the well developed maritime cluster and using organisations such as the Baltic Exchange for vessel charters, Lloyds of London and British P&I Clubs for their insurances and English law firms for their legal maritime requirements. This mutually beneficial relationship flourished in the 50’s, 60’s and 70’s until companies and individuals began to slowly migrate towards Piraeus, partly because of the taxation issues they were facing in the UK and partly because Greece had begun to build the necessary framework for such businesses to be able to successfully conduct their business in their home country. The movement to Greece grew during the 80’s and 90’s and until today leaving a much smaller concentration of such agency companies in London. It is difficult to point to specific decisions by the Treasury or the HMRC which have led to this move, although there have been periods of harassment by both, which when combined with the growing maritime cluster in Greece together with the attractive legal and tax framework, served to facilitate the return of these companies back home. Brexit was probably the icing on the cake but by the time it arrived the movement of companies and individuals was already in its final stages and therefore largely unaffected.

2. Posidonia is the most well attended international shipping exhibition. It is also a meeting point for members of all shipping and maritime fora, where opinions and ideas can be exchanged. What are the Greek ship owning community’s biggest priorities today and how important is it for the international maritime community to comprehend these priorities, in these challenging times? Greece has one of the youngest and most technologically advanced fleets in the world making up about 60% of the EU fleet, 30% of tankers worldwide, 25% of bulk carriers, over 20% of LNG carriers and a growing presence in the worldwide Container ship fleet. Add to that the substantial maritime cluster of lawyers, banks, insurance companies, Class Societies and other maritime providers established within the wider Athens/Piraeus area, then it is not surprising that Posidonia is the most well attended international maritime exhibition breaking all records again after a Covid imposed absence of four years. It is an opportunity for Greece and the ship owning community led by the Union of Greek Shipowners and their new President Melina Travlos to demonstrate their over-riding priority to navigate the transition from fossil fuels to zero carbon technologies in their vessels’ propulsion systems in a measured and sustainable manner, ensuring at the same time that such technologies are introduced with particular emphasis on safety for the crews, their vessels and cargos.
You have been heavily involved in the maritime insurance sector throughout your career. During the last three months the international press has continuously reported on the challenging—if not dire—situation of many P&I clubs. What is the future of this sector and is consolidation the only way ahead?

I do not agree that P&I Clubs are in a dire situation. Most Clubs are well capitalised and have been going through an adjustment period to improve their underwriting combined ratios by increasing their premium base to deal with the growing value of claims which they are facing. Some Clubs have been forced to raise premium more aggressively through supplementary calls whilst others have simply relied upon general increases. The mutual system of insurance however remains in very good health and overall is without doubt the most efficient and cost effective way to offer indemnity insurance in the amounts required and demanded by the shipping industry. It is simply that we shipowners will have to come to terms with paying a little more for this insurance.

The recent merger between the North & Standard P&I Clubs (still to be ratified by their members) has sparked debate about the road to consolidation to which this merger may lead. Big is not necessarily always beautiful and in this case we will need to see what advantages such a merger offers to members apart from presenting itself as an alternative in size and scale to the clearly successful Gard model. There is a tendency for the larger Clubs to prefer (and be more competitive for) the larger fleets, both in numbers and in vessel size, and I believe it is important for the smaller ship owners with smaller sized vessels to have P&I Clubs that welcome their business and provide the extra service they require. I am therefore not convinced that limiting choice through consolidation to five or six P&I Clubs is necessarily the way forward and in the best interests of the wider membership, although financial considerations may in the end oblige some of the smaller Clubs to join forces.

Some commentators suggest that although the fundamentals on the supply side can be somewhat predicted, the future demands of today’s global economy are never clear cut. If this sentiment stands true how can a shipowner safely outline his or her fleet growth strategy?

This was always the case although it has become even more difficult today. The supply of tonnage has generally been easier to estimate with a degree of accuracy by monitoring the ships on order at the various shipyards although the true supply is influenced by extraneous factors such as congestion, slow steaming (influenced by freight rates, bunker prices and EEXI/CII considerations) and additional shipyard repair delays (for scrubbers, BWTS and Covid related issues) which have been more difficult to accurately predict more recently. The demand side on the other hand has an even greater degree of unpredictability as it depends on a multitude of economic, seasonal and geopolitical factors which influence the supply and demand for the various cargos that make up the eventual tonne-mile demand of each sector. Add to this mix the distortion of tonne-mile demand resulting from sanctions and environmental expecta-
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tions and you have the extreme volatility that we see in all areas of shipping today. So I am afraid that I am unable to satisfactorily answer the question you pose in your last sentence save to respectfully suggest that extreme caution is required in renewing one’s fleet going forward.

You are one of the few members of the Greek shipping industry to have been elected as a Board Member of both the UGS and the GSCC. In the past, some members have criticized the fragmentation of the international ship owning community. Does the Greek ship owning industry possess a united voice in its outlook towards future endeavors, especially in relation to environmental regulations?

It is indeed a privilege to serve on the Boards of both the UGS and the GSCC although there have been many London Greeks who have served similarly before me. The UGS is, as you would expect, the pre-eminent voice of Greek ship owners and I am of course in a position to confirm beyond any doubt that both bodies speak with one voice and are very much united in their views, not only in relation to environmental regulations but also on the many issues and problems which face our industry both within Europe and on the International stage.

Since the 1950s the Caroussis family have always been advocates of the hands-on model of ship management, as well as the establishment of long-standing partnerships. How can a Manager today balance a tightly run company without jeopardizing the necessary flexibility needed in a business consortium?

There is no doubt that the larger the company and the larger the number of vessels under management, the greater the difficulty in maintaining the traditional hands-on style of management. However with appropriate organization, for example, dividing the fleet into self sufficient groups of vessels and choosing appropriate people within those groups, supervised by experienced managers, one can still maintain quite closely that traditional family type of management. The overall style of management of course percolates down from the top and it is therefore very much dependent upon the individual(s) at the helm of the company. Long-standing partnerships are not necessarily affected adversely by the size of a particular company but more by the nature of the leadership and their values.

Chios Navigation has traditionally flown Flags of outstanding reputation on its vessels, including the Greek Flag. Despite the Greek Minister of Merchant Marine’s new policies on the competitiveness of the Greek Flag, owners are still hesitant to select the Greek national Registry. In your long-time experience what are the main reasons for this reluctancy today?

Many Greek shipowners who were historically strong supporters of the Greek flag, ourselves included, have slowly migrated to foreign flags mainly because of the difficulty in finding suitable Greek officers to satisfy the (until very recently existing) minimum manning requirements of a Greek master and 5-6 officers per vessel. Most of these shipowners, ourselves again included, have continued to employ Greek officers on their foreign flag vessels, despite the additional cost, but without having the obligation to do so, because we believe that a well educated and well trained Greek officer (especially the younger generation of officers) is second to none! Although the manning restrictions under the Greek flag have now been relaxed and relevant costs reduced, it is not easy to attract those shipowners back to the flag until we can demonstrate the equivalent efficiency on the administrative side which other flags have developed in the meantime.
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In her interview, Dr. Cleopatra Doumbia-Henry shares her thoughts on the lessons learned by maritime education from the Covid-19 pandemic and the impact of the crew changes crisis on the global shortage of officers. The President of the World Maritime University talks about the progress of the shipping industry in gender equality and the skills young people should be equipped with to pursue a career in shipping.

THE NATURE OF SHIPPING AND MARITIME PROFESSIONS IS BEING RESHAPED

What are the most important lessons learned by maritime education organizations from the Covid-19 pandemic? As the head of the World Maritime University, how did you deal with these new conditions?

I believe that the most important lesson learned from the COVID-19 pandemic concerning maritime education and training is the significance of adaptability and flexibility in dealing with problems as they arise, especially in a marine environment where adaptability is critical, taking into account the nature of shipping and seafaring and the time spent at sea by the world’s seafarers, who need to be prepared to deal with the dangers at sea.

With respect to dealing with the new situation during the pandemic, WMU was able to deliver on its postgraduate maritime and ocean education, training, capacity-building, and research mandate by moving seamlessly to online delivery for all our programmes. This was possible as WMU was already equipped and delivering online education for our distance learning portfolio.

Maritime education and training providers had to adapt quickly to restrictions imposed due to the Covid-19 pandemic. That had a significant impact on education and training providers as new ways had to be found to deliver education programmes. The necessary equipment had to be quickly put into place for those countries that could do so.

Do you think the significant challenges facing seafarers today, culminating in the great crisis of ships being unable to carry out crew changes, will discourage many young people from choosing the maritime professions and exacerbate the global labor shortage on ships?

One of the major concerns I have is the length of time seafarers have been forced to remain at sea past the allowable term of their employment contracts as stipulated by the Maritime Labour Convention, 2006 (MLC) as amended. Considering that the majority of seafarers working onboard ships come from the developing world, it has been difficult for them to transit and transfer from countries where their ships docked to return home following their tour of duty. This means that many seafarers remained, and continue to remain, at sea long past their period of service on board. I am concerned that this may well be a deterrent to the future of seafaring unless all member States designate seafarers as key workers to avoid the same kind of humanitarian crisis many seafarers experienced during the COVID-19 pandemic. Seafaring is an incredible career and opportunity for young people around the world. Over 80 percent of the global trade volume in goods is carried by sea, so we must attract enough young and willing seafarers to support a sustainable future for the shipping industry, which is invaluable to the global economy. The key to success in that regard is to ensure that seafarers have and receive the necessary protections provided under the MLC 2006 and their designation as key workers.

You have been a proponent of gender equality in shipping. Do you think there is progress in this area? What initiatives is the WMU undertaking in this direction?

Although the number of women in the maritime profession is increasing, particularly in shore-based jobs, it remains very much a male-dominated industry. Today, women represent only two percent of the world’s 1.2 million seafarers, and that percentage has remained relatively constant for more than twenty years. COVID-19 has presented major chal-
In recent years, shipping has been undergoing a digital transformation leading to a sustainable future. What skills should young people be equipped with to pursue a career in shipping?

As current digitalization and greening of the conventional fleet proceed apace, the tasks of seafarers are expected to shift towards more digital ones, especially in operations monitoring and system management, and in less manual work. Maritime education and training (MET) need to be adapted in order to equip seafarers with the new skills required. Young seafarers who wish to pursue careers in shipping should be able to combine maritime skills with digital skills, particularly in three general domains: data fluency and the ability to interpret and analyze large amounts of data; digital operation of equipment such as maneuvering a ship, cranes, and winches; and, software engineering of fundamental programmes and systems. It is, however, acknowledged that the emerging challenges in the industry may be perceived and approached differently by different generations. As discussed in Naftika Chronika in 2020¹, relative to generations before them, the more recent generations are often perceived as having a seemingly natural affinity to digitalization and interconnectedness. This is particularly the case for Generation Z, largely understood as a reference to people born between 1995 and 2010. Young generations have been referred to as ‘digital natives’ surrounded by the internet, social networks, and mobile systems and are similarly, the provision of substantive practical training for maritime students during their studies is of great benefit. For instance, MET institutions can play a role in preparing seafarers for lifelong learning career paths that support a transition to expanded opportunities, including on-shore careers². Importantly, when considering how young seafarers can acquire skills relevant to digitalization, MET plays a critical role in the transition from school life to career. Further and higher education has the potential to enhance the achievement of relevant and needed skills, knowledge, and mindsets for practical industry work and engagement. It is necessary to develop a practical educational environment that will enable young seafarers to succeed in their future careers² by adopting cutting-edge teaching and learning methods, as well as the communication style between the actors of the educational process, the form of presentation of the information, and the active use of information and communication technologies. It is thus necessary to adopt robust and continuous training, re-training, and educational environments in which all generations, particularly young seafarers, can productively use their talents, abilities, and individual characteristics and aspirations as advantages.

True to the vision of Aristotle Onassis, since 1975, Olympic Shipping and Management S.A. manages a fleet of 18 vessels, manned mainly by Greek officers. What starts out as a tireless effort across the seas around the globe, returns to the Greek society as investment in healthcare, culture and education, through the work of the Onassis Foundation.

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Do you think digitalization will reshape the nature of shipping and maritime professions? What steps should companies take to support their workforce?

The nature of shipping and the maritime professions is being reshaped as the industry is exposed to new types of challenges, such as technological (e.g., automation and digitalization), societal (e.g., work, employment, and education), environmental (e.g., energy efficiency, and ocean governance). A significant challenge is the ongoing COVID-19 pandemic and its effects on all sectors of the global economy. Uncontemplated distortions seem to occur on a more frequent basis and with acceleration. All the above affect the shipping industry on a global scale.

The technological challenges, influenced by Industry 4.0 and the development of 5G and 6G technologies, are related to digitalization and automation processes, such as the introduction of maritime autonomous surface ships and the development of digital shipping and logistics processes, enormously increasing the amount of data accompanying all processes, among many other things.

This trend is not just seen in the industry but also our individual lives. Today, our daily activities tend to be connected to the digital world through personalized digital devices and internet-enabled services through our mobile phones, laptops, computers, and wearable technologies. With such technological advancements in mind in the present and for the future, the maritime professions should be able to adapt and thrive - whether through remote working, virtual communication, or contactless transactions as part of pandemic precautionary measures, and looking towards more complex developments throughout the supply chain due to digitalization, automation, and greening technologies.

Limitless connectivity introduced by digitalization, along with associated technologies in automation, is likely to trigger a variety of societal challenges impacting the nature of jobs, work environment, employment possibilities, and career options. The World Maritime University's 2019 report on Transport 2040: Automation, Technology, and Employment – The Future of Work highlights that a high degree of adaptability to technological developments is key to resilience and success for maritime companies in business operations and human resource management. Among the key findings are highly automated ships that have the potential to reduce the global demand for seafarers when compared with conventional ships. However, autonomous ships are not likely to replace conventional cargo ships and render conventional seafarers obsolete. Autonomous ships will likely become part of some local transport systems as an alternative to other transport modes. You can see parallels in other transport modalities, such as fully-autonomous monorails, which have already been around for decades and yet have not completely rendered the human element obsolete in the railroad industry. Nevertheless, change in the maritime sector is happening through the increasing digitalization of fleets. It will continue to transform seafarers’ tasks into more digital ones, reducing the need for human intervention and involvement. In order to develop the means for companies to support their workforce, as mentioned earlier, it is crucial that steps be taken to ensure that seafarers acquire digital skills in three domains, namely: data fluency and the ability to interpret and analyze data, digital operation of physical entities, and the software engineering of fundamental programs and systems. Such capacities and proficiencies would allow companies and their workforces to weather potential disruptions and, more importantly, to benefit from transformations brought about by digitalization. Overall, human-centered approaches, including seafarers’ career development, should always be considered when designing the shipping industry’s future workforce. Career support systems for seafarers as well as the effort for stakeholder engagement in shaping future maritime skills should also be strengthened.

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With the newly published “Greek Islands” reaching readers worldwide, Katerina Katopidis-Lykiardopulo, Member of the Hellenic Olympic Marketing Committee, talks to Naftika Chronika about investing in Greece and how Greek maritime heritage can be a leading part of the country’s global image.

**THERE IS A TREMENDOUS APPETITE FOR INVESTING IN GREECE, AND THE CLIMATE IS DEFINITELY CHANGING**

1. **Due to the boom in the tourist industry over the last decade, the country has seen a massive influx of travelers in Athens and other major Greek cities. Are these numbers sustainable? Or should there be a change of pace or plans?**

   We have indeed seen a large influx of travelers to Athens and other major Greek cities; however, at the same time, we have also seen larger and smaller family-type hotels mushrooming everywhere. As a tourism industry professional, I often wonder if the numbers are sustainable: it seems, though, that we only have upwards to go, judging by the latest figures and trends. What is imperative, though, is to ensure that Greece invests in new infrastructure and the modernization of existing facilities so that we can cater to the increasing numbers in a sustainable manner. Correct planning for the future is a must.

2. **Until fairly recently, there has been a reluctance by major conglomerates and hospitality groups to invest in Greece due to the regulatory framework that surrounds foreign investments. Is this situation changing? Would you advise an international investor to consider Greece a viable option for a sound business venture?**

   Over the past few years, we have seen our country’s credit rating upgraded to a BB+. Despite recent tax relief measures and economic support, the government is committed to meeting its fiscal targets and returning to investment grade in early 2023. Furthermore, a number of measures introduced to minimize red tape bureaucracy and facilitate foreign investors have helped create a stable and safe environment for investors. A testament to that is the recent investments by well-known conglomerates such as Pfizer, Microsoft, and Amazon, to name a few. In recent years, in the tourism sector, we have seen some of the world’s foremost funds specializing in tourism-related ventures investing in Greece, mainly in acquisitions of existing properties, aiming to grow their portfolio. Internationally acclaimed hospitality brands have undertaken the management of several properties, and quite often, they also invest in the projects themselves. There is a tremendous appetite for investing in Greece, and the climate is definitely changing.

3. **How did you set about publishing the “Greek Islands” coffee table book? Is its publication an indication that Greece is starting to be considered a mainstay country for the luxury tourism industry?**

   My friend Chrysanthos Panas, who had also worked on the Athens Riviera publication with Assouline, proposed to them to create a book on the Greek Aegean islands. Martine Assouline embraced the idea, and they asked me to work with them on the photography. We chose the islands we wanted to include and set out on our own Aegean Odyssey. The fact that such an esteemed publishing house as Assouline decided to make a publication on the Greek Islands as part of their coveted Travel Series is, I believe, a great honour for our country and sets the tone for greater things ahead. It further reinforces the international interest in Greece as a prime touristic destination for discerning travellers but also as a trend-setting and quintessential summer holidaying haven.
It is somewhat inspiring that international publishing houses still invest in printed media and high-quality publications. Do you believe that generation Z is still interested in the magic of paper?

We live in the digital age and are bombarded daily by endless amounts of information, news, and images. Our phones are an extension of our hands, and most of us scroll down even subconsciously at all times of day through social media platforms or news sites. There is, however, in my opinion, nothing like paper. I still get the Sunday papers in hard copy and love to read actual books. There is something permanent and long-lasting about paper. It is wonderful that international publishing houses still invest in high-end books and build up anticipation about what is coming next. Assouline has been a forerunner in creating the dreamiest, colourful ‘travel series’ coffee table books, immersing their readers in the beauty of the region they choose to explore each time. I believe that people are going back to print and falling in love again with the magic of paper and a ‘slower, more enjoyable pace of life.’ While generation Z are ‘digital natives,’ they are also ‘experience’-seekers, and, hopefully, this includes falling in love with things ‘past.’

Your hometown of Thessaloniki has come a long way as a tourist destination from its humble beginnings in the 20th century. Is high-end tourism the way to go for the port city of Thessaloniki?

My hometown has indeed come a long way; however, let us not forget that Thessaloniki was liberated in 1912. In the years that followed, the city thrived and developed into a robust trading hub, largely due to its large Jewish population, the vast majority of which was eradicated during WWII. In the ‘80s, Thessaloniki and its environs were the industrial centre of Greece; however, as industry shrunk, the city fell into decline. Nevertheless, we managed to reinvent ourselves and make the shift from industry to the services and tourism industries, attracting more visitors via direct flights from numerous international destinations and via cruise liners, which included the city in their routes. Thessaloniki has slowly emerged as the ideal weekend break; the perfect place to have a good time, eat well, take a stroll along the famous ‘paralia,’ and visit the world’s foremost Byzantine monuments and the tombs and treasures of the Kingdom of the Macedons (Alexander the Great.
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We have a long way to go, but we are on the right track, a fact which is further reinforced by the investments and new-high end hotels opening happening as we write this!

6 How can Greece’s maritime culture and heritage become a successful and distinct part of our international marketing campaigns?
I do not believe we have adequately leveraged our maritime culture and heritage yet so that it becomes a distinct part of our country’s international marketing campaign. It is most certainly a sector with a lot of interest and, if ‘packaged’ and promoted correctly, will appeal to the right audience. However, we also need to upgrade our museums and educational facilities and educate our younger generation to continue this tradition and pass it on to future generations. My husband and I recently visited the Maritime Museum of Crete in Chania and were informed that it is one of the very few facilities in Greece that builds replica ship models. Their collection, knowledge, and models are extraordinary. We could not help but think what a great platform this could be for international workshops and fora for like-minded people: a small example of the possibilities our maritime heritage provides. In the past few years, the Ministry of Tourism has been pioneering specialty tourism sectors, such as wine tourism and sports tourism - for the first time and with great success. Maybe maritime culture could be next?

7 Your journey onboard a traditional Greek schooner catches the essence of the Greek summer experience: hospitality, culture, and serenity. How was the experience of this creative journey from sailboat to printing house?
There is nothing quite like exploring the Greek islands by boat. Every summer, when I set out on such a voyage, I am instantly in a state of bliss and tranquility: I usually sit at the stern and look back. Surrounded by the endless blue glittering sea, we glide gently through the Aegean and occasionally see playful dolphins. There is always a smile on my face and excitement for things that lay ahead: small islands, Greek ‘philoxenia’, delicious food at the water’s edge, endless chats with my ‘islander’ friends, discovering local artisans, swimming in hidden secluded coves, visiting monasteries and ancient ruins and choosing to watch sunsets rather than TV. It is the most magical time of year, and this is precisely what we tried to convey through this book: the endless carefree Greek summer, island hopping through the Aegean, showcasing the beauty and differences of each locale. We tried to capture the magic and the essence of Greece, which has inspired so many international artists, movie producers, and simple people who keep coming back year after year. Throughout this journey, especially when capturing things that we as Greeks sometimes take for granted, I could not help but think how lucky we are to have grown up with the Aegean as our playground.

8 How would you describe the Covid era in this industry? Will the tourism industry ever be the same?
Worldwide tourism was probably one of the industries most badly hit by Covid. Greece, however, largely thanks to the way we handled the pandemic at a national level and the resilience and versatility of our tourism industry, has been able to adjust to the new era very quickly. We have managed to offer travelers the security they want to feel, adjust the tourism offering to the new ‘normal,’ and modify our product to what tourists are now looking for (shifting to ‘experiences’ and a sense of place). A lot more challenges lie ahead, but challenges create opportunities, and it is up to us to make the most out of them.
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In her exclusive interview with Naftika Chronika, Mrs. Milena Pappas comments on the fundamentals that will shape the dry cargo market, Star Bulk’s future growth strategy, and the role of the shipping industry in the global economy’s energy transition race.

**IN THE FACE OF CHANGING ENVIRONMENTAL REGULATIONS, STRATEGIC PARTNERSHIPS AND SCALE WILL BECOME EVEN MORE CENTRAL**

1. **Star Bulk operates exclusively in the dry cargo shipping market. Do you think the strategy of focusing solely on this market is advantageous?**

   We have been in the dry bulk business for at least 40 years. So, it is safe to say that our strengths and expertise lie in the knowledge and experience we have acquired in the sector over the years. Being a purely dry bulk company - especially a listed one - gives the investors more confidence that we are experts in what we do and that our focus remains on that. Throughout the years, we have managed to be consolidators in our field, and gained important advantages such as competitive costs, commercial synergies, and significant stock liquidity.

2. **Are there any thoughts of diversifying the fleet outside the dry market?**

   Star Bulk has no future plans to diversify outside the dry bulk market. We have built the largest US-listed dry bulk shipping company, and investors have shown they appreciate our size and exclusive focus on this field, which is one of the reasons they invest in a company like ours. They know that Star Bulk is a company specializing purely in dry bulk. The only diversification strategy we follow is within the dry bulk sector, meaning that we have approximately 30% in each bulker segment: Supramaxes/Ultramaxes, Panamaxes/Kamsarmaxes, and Capesizes/Newcastlemaxes. During slow markets smaller sizes prove more resilient and during strong markets Cape rates perform stronger. Although, at this present time smaller sizes seem to perform very well in both cases as they take advantage of break bulk cargoes that have moved from the container sector to the dry bulk sector as a consequence of the exceptionally strong containership market and the delays experienced in procuring their cargoes.

3. **In a recent public statement, you mentioned that the dry market fundamentals are encouraging for the freight market - at least until 2024. What are the fundamentals that will keep freight rates high?**

   The previous market boom back in 2006-2008 was purely demand driven by China’s tremendous import needs. By contrast, this market upturn is supported by strong supply market fundamentals. We have a historically low orderbook of 7% (just imagine that in 2010-2011 the orderbook exceeded 75% of the fleet). At the same time, fleet growth for 2022 is estimated at around 2% and will be between 1-2% in 2023. In previous market upturns, there was a rush of owners to the yards to secure speculative orders. This time around, this has not been the case, mainly due to three reasons: a. the upcoming environmental regulations creating uncertainty over future fuel mix and engine propulsion technologies. b. the fact that the shipyards are all booked up with containership orders, and c. high steel prices leading to higher newbuilding prices. So, with the supply side more or less fixed at historical lows, and environmental regulations kicking in, owners are incentivized to scrap older and less efficient units, especially as scrap prices continue to be strong. In my opinion, tonnage growth and supply are more likely to decrease in the next two years. Meanwhile, Covid-related disruptions and vessel reroutings for crew changes have increased congestion and inefficiencies, resulting in decreased fleet utilization. But even when Covid-related disruptions subside (which I don’t expect will be the case for 2022 at least), EEXI and CII coming into effect as of 2023 will lead to slow steaming, with high oil prices ensuring further vessel speed reductions. Adding to these inefficiencies, geopolitical tensions such as the Russia-Ukraine war and the Chinese ban on Australian coal cargoes are currently leading to increased
ton-miles which may be far more significant than
the actual volume of goods traded. All these supply-
side fundamentals allow us to expect a healthy
market.

As for the demand side, I remain optimistic as we
see a concerted worldwide effort to stimulate the
global economy as the world slowly recovers from
the pandemic. China will continue to play a cen-
tral role, especially in the dry bulk market. With
the Olympic Games over, we already see signs of
China moving to stimulate its economy by easing
its policy on real estate and increasing investments
in infrastructure.

The ongoing energy crisis and surging oil and gas
prices will inflate the coal trade in the short term
as the world reverts to relying on coal once again,
least in the short term, as a much cheaper and
affordable alternative despite its harmful effects
on the environment.

Two final interesting demand-side points are first,
the spillover effect of the booming container market
on the dry sector. And second, the frequent, unpred-
dictable, and consecutive black swan events have
led industry players to move from a Just in Time to
a Just in Case mentality, increasing inventory levels
to create a shield against future disruptions.

History keeps reminding us that demand is always
unpredictable, and the possibility of yet another
“black swan” like Covid or the Brumadinho
dam disaster cannot be excluded. Nonetheless,
with the current supply landscape, chances are we have a good market ahead of us for a while.

What is the role of the Asian countries
in the dry market? Given China’s commit-
tment to reducing its environmental
footprint, do you think the dry market
will shift to other markets?

China is responsible for about 50% of the world’s
dry bulk trade and is the highest importer of iron
ore, representing approximately 70% of global
outputs. Additionally, China is also an importer
of huge soybean and grain volumes from the US,
which are likely to increase as part of China’s
5-year feedstock plan.

China has committed to reducing its environmental
footprint; however, it needs to continue upgrading its
infrastructure to achieve this. China’s steelmakers, the
dominant source of global demand in the dry bulk
sector, have just been handed a substantial extension,
as the government recently announced the postpone-
ment of peak emissions from its steel industry by five
years (from 2025 to 2030). That means that Chinese
steel producers will still require huge iron ore and
coal imports to support their industrial operations. At
the same time, the energy crisis and record-high gas
and oil prices have increased reliance on coal as a
cheaper - albeit polluting - alternative energy source
across the globe. Coal represents about one fifth of
dry bulk trade in tonne miles.

Transitioning to a greener world requires enormous
investments, especially in the infrastructure-related
sectors. Consequentially, this means continued
demand for ferrous commodities like steel as well as
coal and cement, which are all transported by dry
bulk vessels. I believe the dry bulk sector’s short to
medium-term reliance on Asian countries will continue.

In recent years, shipping has been
faced with regulations to reduce its
environmental footprint. What do you
think is the role of the shipping indus-
try in the global economy’s energy
transition race?

Ships transport approximately 80-90% of world
trade by volume, yet they are responsible for about
2.5% of GHG emissions. So right now, in terms of
CO₂ emissions, shipping is by far the most efficient
mode of transport. However, the maritime indus-
try’s enormous scale makes it a noticeable contrib-
utor. At the same time, shipping is an indispensable
part of the global supply chain industry. Hence, as
the other industries actively move to decarbonize
and be more environmentally conscious, this per-
centage could increase substantially. It is essential
to take initiatives and form strategic collaborations
across the maritime chain to ensure a smooth tran-
sition to an eco-friendlier world. It is very encour-
aging to see stakeholders in the maritime supply
chain (miners, owners, ports, operators, etc.) taking

History keeps reminding us that demand is always
unpredictable, and the possibility of yet another “black swan” like Covid or the Brumadinho dam disaster cannot be excluded. Nonetheless, with the current supply landscape, chances are we have a good market ahead of us for a while.
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proactive initiatives even before regulations and policies are set in place. It is exciting to see, for the first time, such a fragmented sector coming together and cooperating for its energy transition going forward.

Given that Star Bulk has rapidly adapted to environmental regulations in the past, what is the company’s strategy on the road to the ambitious 2050 decarbonization goals? As the largest listed dry bulk company in the US, we aim to be at the forefront and take initiatives in the effort to decarbonize our industry. While we wait for the fuel mix to be determined, future technologies to be developed, the framework of regulations to be established, and clarity to prevail, we are planning our company’s short to medium-term strategy via operational and technical optimizations and Energy Saving Devices (ESD) installations. We have designed implementation roadmaps based on three pillars:

- Vessel performance optimization: As Prince Charles aptly said during COP26, “you cannot manage what you cannot measure”. So, the first step was to build our vessels’ profiles based on their carbon footprint and intensity and to identify and improve vessel efficiency through operational and technical measures. For example, we use different weather routing platforms, which helps us plan our vessels’ voyages.
- Voyage optimization: We are actively piloting advanced software platforms to assist our commercial decisions, increase our vessels’ efficiency, and decrease bunker consumption and thus emissions. For example, we use different weather routing platforms, which helps us plan our vessels’ voyages.
- Research & Development: We participate in various workshops with engine makers, manufacturers, and classification societies, to assess the feasibility of green fuels for the maritime industry. Also, as more than 95% of our fleet is fitted with exhaust gas cleaning systems, we work closely with scrubber manufacturers to seek solutions to perform carbon capture on board through our existing systems. At the same time, we are signatories or active participants in various organizations and platforms, including the Getting to Zero Coalition, Global Maritime Forum, United Nations Global Compact, and the International Bunkering Industry Association. These are just some of the initiatives we have taken to reduce our carbon footprint and make sure we are at the forefront as things on the environmental front evolve and take shape.

Your fleet’s growth has been based on second-hand vessels rather than new-builds. Why have you chosen this strategy, and how can a company plan an explicit fleet renewal and modernization strategy in times of significant uncertainty for the industry? At Star Bulk, we always try to evaluate opportunities according to what we perceive as the most attractive investment within the dry bulk shipping sector at a given time. A good example of this was back in 2013/14 when we proceeded to order newbuildings for three important reasons. Firstly, there were few second-hand vessels available for sale in the market. Secondly, newbuilding prices were very low. Thirdly, and perhaps most importantly, new eco- vessel designs promising much lower fuel consumption were coming out.

Another good example was back in 2018 when we saw the opportunity to acquire vessels through share issuance, as many private equity investors seemed keen to exit the dry bulk shipping market. The market dynamics made it possible to add second-hand vessels to our fleet that could be employed in the market and immediately produce income for our shareholders.

Do shipping companies and charterers reach agreements to share the costs of installing green technologies on chartered vessels? The cost of retrofitting a vessel has traditionally been borne by the owner. The charterer does not generally participate in financing investments that remain on board unless they have chartered in the vessel for a few years. The vessel owner also has indirect incentives and benefits from retrofitting it. Installing ESD devices on board may improve a vessel’s consumption efficiency, leading to lower fuel consumption and a better EEXI/CII rating. A better rating gives a vessel a competitive advantage in the chartering market. Financiers also tend to give more favorable terms to better-rated vessels. However, ESDs can be pretty costly. Therefore, in a bad market, such indirect benefits do not constitute reason enough for a shipowner to invest actual money in installing onboard technologies that do not produce a direct return on the investment. Asking a charterer to participate in the cost-sharing of green technologies installed onboard is easier in a good market or if they charter in a vessel for a more extended period.

Moves like these allowed us to increase our fleet size in the preferred segments, reduce average age, and increase our market capitalization and stock liquidity.

In 2020, the underlying market fundamentals led us to anticipate a positive market. Investing in second-hand vessels seemed a more prudent thing to do because it allowed us to increase the company’s size by adding vessels in the water that could generate immediate profits while waiting for new technologies and vessel designs to develop.

Currently, new vessel propulsion technologies are
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being developed, whilst the future mix of alternative fuels is not yet determined and is dependent on parameters like global availability and scalability, technology maturation, safety, and regulations. In light of the upcoming environmental regulations, we are currently looking inwardly at our existing fleet and focusing on upgrading its efficiency as we wait for the vessels of the future to be developed. When that reality is closer, we will most likely be substituting our older, less efficient vessels accordingly.

Do you think partnerships and consolidation are the only ways to mitigate the sharp fluctuations and the circularity of the freight market?
In terms of consolidation, scale offers shipping significant benefits, both from a revenue and a cost-saving perspective. A bigger fleet allows you to strengthen your relationship with charterers, miners, cargo owners, and clients and have more market intelligence. In terms of cost, size enables economies of scale, reducing OPEX and G&A costs while increasing your bargaining power with suppliers and service providers. Another advantage of consolidation is it provides improved access to finance and better credit terms.

For all these reasons, partnerships have always been at the core of Star Bulk’s mentality and philosophy, a current example being our participation in the CCL platform. The Capesize market is much more volatile than the other dry bulk shipping segments; thus, we strive to safeguard against a potential bad market by participating in such a pool. As decarbonizing our world has become a pivotal issue, far-reaching changes will take place across the maritime sector, and costly decisions will have to be made on future infrastructure-related investments. Strategic partnerships may help shape decisions surrounding future technologies, the fuel mix, and finally, how the vessels of the future should be. Reaching consensus with other stakeholders on such crucial and costly outcomes allows the costs to be spread, while it also helps safeguard investments and minimize the risk of ending up with stranded assets. Furthermore, alliances give access to intelligence and a better understanding of future regulations and a stronger “voice” and influence as these policies are being shaped. In this sense, such partnerships will be fundamental.

Shipping is de facto an ever-changing and highly volatile industry. A shipping company’s size can increase access to opportunities and enhance the ability to form stronger partnerships with industry parties. However, it is not the only way to mitigate the shipping market’s intrinsic circularity. There are other ways to tackle this issue, such as reducing leverage to decrease risk. But I believe that given the changing world we find ourselves in, strategic partnerships will play an essential role for every company.

It is exciting to see, for the first time, such a fragmented sector coming together and cooperating for its energy transition going forward.
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In his interview, the Managing Director of Ionic Shipping (Mgt) Inc refers to the critical challenges that small and medium-sized Greek management companies will face, the advantages offered by a diversified fleet, and comments on the future of the seafaring profession.

**THE SHIPPING BUSINESS HAS ALWAYS BEEN CHARACTERIZED AS HIGHLY RISKY, SO INVESTORS RIGHTLY EXPECT HIGHER RETURNS**

What do you consider the most critical challenges that small to medium-sized, Greek-owned management companies will face in the near future? With what strategies and tools can such companies ensure their survival and longevity?

More than ever before, shipping companies today need to be sophisticated in terms of financing and, at the same time, efficient in terms of operations. No matter how big or small, they must focus on sustainability, diversity, technological solutions, and environmental stewardship for Greece to continue to be the pinnacle of worldwide shipping.

New digital technologies like artificial intelligence (AI) and various specialized ERP software platforms are already here, while autonomy is just around the corner. The industry is beginning to embrace these technologies in many ways, including financial decisions, operational oversight, and security.

The International Maritime Organization (IMO) CO₂ regulations are an ongoing hurdle for all of us in the shipping industry. While the regulations since 2020 have proven to be manageable with scrubbers and fuel changes (despite the continued fuel quality/commingling concerns), the medium-term regulations set for 2030 will be difficult. As for the longer-term regulations set for 2050, in my opinion, they will be impossible to achieve without drastic new technological discoveries, which to date are an unknown quantity. It has been said that the impending technological challenge the industry will have to go through will not be that far from the change from sailing ships to steam power in the early 19th Century. Meanwhile, embracing strategies such as the Environmental, Social, and Governance (ESG) criteria, cyber security regulations, and the Poseidon Principles are increasingly becoming the norm in the management of our companies in today’s world, albeit the necessity now, more than ever, in having a sizable fleet to be able to benefit from the economies of scale.

The fields mentioned above require additional positions within shipping companies, underlining the continuous need for highly educated people with diverse backgrounds and specialized studies. In addition, programs should be provided to increase existing employees’ knowledge. Further education and close cooperation with universities are needed to meet shipping companies’ future needs. Greece already has an outstanding employee market but knowing the direction of future developments allows us to educate the next generation accordingly.

What led the company to fleet diversification? Is the cost-benefit analysis for this investment encouraging?

The shipping industry is highly segmented. Some shipping companies operate a diversified fleet, while others focus on only one segment or even one vessel size.

The shipping business has always been characterized as highly risky, so investors rightly expect higher returns from high-risk investments. But Ionic believes that an efficient and diversified vessel portfolio provides a crucial advantage over a long-term period. Ship owners can benefit from diversification as a technique to reduce risks. Markets are rarely correlated and, as such, usually provide long-term benefits for different fleets.
From the inception of Ionic, tanker management practice was and continues to be incorporated throughout its operating procedures both ashore and onboard both fleets – tanker and bulk carrier vessels. Ionic’s original strategy on the same is primarily due to the background and experience of the majority of its key staff members. It helps Ionic differentiate itself from other dry cargo ship managers. Since acquiring its first tanker vessel back in 2016, Ionic has been approved by several oil majors for long-term time charterers, underlining its quality management philosophy and long-term partnerships with like-minded organizations; the same applies to Ionic’s bulk carrier fleet.

Two of the biggest concrete challenges the seafarer profession faces are a shortage in the supply of skilled seafarers worldwide and predicting future skill needs, given that new technologies and digitalization are moving swiftly forward.

High-quality fleet vs. OPEX at the lowest possible levels: Towards which of these two is the scales tilting for the modern shipping business? With all the new regulations and demands facing ship owners worldwide, few can argue that OPEX levels for all industry segments have continued to spiral upwards year after year. Higher quality, however, means being able to command higher premiums with first-class end users, higher utilization rates resulting in better customer satisfaction, and reduced claims resulting in lower premiums.

Ionic has always been a firm believer in “quality pays off.” We are adamant about an organization’s long-term benefits when offering premium services. Thankfully, the company’s continuous efforts to provide value-added maritime transportation solutions to its end-users have earned it a high reputation for service, quality, safety, and efficiency. The entire fleet is operated to the first-in-class standard of technical maintenance to minimize downtime and the risk of maritime incidents. Safety, Health, Quality, and Environment responsibilities extend throughout the organization while our high ethical standards are and always will be our core value. We are very proud of attaining this standard, and our focus is on maintaining it.
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3) Decentralized operations provide customers with 24 hour worldwide service.

4) The RMI Maritime Administrator (the “Administrator”) has authorized the major Classification Societies to act on its behalf, while maintaining its own technical team responsible for oversight of delegated functions, simplifying matters for owners/operators.

5) The RMI remains white listed with the Paris and Tokyo Memorandums of Understanding, and has maintained an unprecedented 18 consecutive years of QUALSHIP 21 status with the United States Coast Guard. This prestigious port State control record is achieved through IRI’s pre-registration vetting and assessment process, continuous monitoring of the fleet, and complimentary technical support to all RMI flagged vessels.

6) The RMI maintains a permanent representative and active delegation at the International Maritime Organization. This delegation plays a role in shaping future regulations, allowing the RMI to proactively manage the implementation of new requirements and provide relevant advice to owners/operators and other industry stakeholders.

7) The Administrator has experience with all major vessel types, with 5,178 vessels registered with the RMI as of 30 April 2022.

8) The RMI fleet is the youngest and greenest quality fleet in the world based on data published in Clarksons Research’s World Fleet Register.
The role of seafarers in recent decades has been upgraded to comply with modern industry requirements. How do you see the future of the maritime profession being shaped? Will the developments of the last two years (the suspension of crew changes, the war in Ukraine, etc.) intensify the shortage of officers noted in the global fleet?

The arrival of Covid-19 presented truly enormous challenges for the entire maritime transport sector, not least of all for seafarers worldwide who have endured a great deal over the last two and a half years. Now, with other geopolitical situations, including the crisis in Ukraine, seafarers have further hurdles to tackle so as to overcome incredible challenges to keep shipping and supply chains in operation.

Any seafarer will tell you that it is an incredibly demanding job at the best of times. Demanding physical working conditions, potentially hazardous tasks, long hours of work, and high levels of stress and fatigue are often difficult to cope with. Additionally, seafaring is also described as a ‘lonely life.’ Not only are seafarers away from family and friends for long periods, but many seafarers also live isolated lives while onboard. An increasing degree of ship automation has led to smaller crews, and crew members may have very different cultural and ethnic backgrounds. In this context, the workforce may be particularly vulnerable to mental ill-health.

Two of the biggest concrete challenges the seafarer profession faces are a shortage in the supply of skilled seafarers worldwide and predicting future skill needs, given that new technologies and digitalization are moving swiftly forward. In our ever-changing industry, seafarers’ knowledge and skills become critical and require constant updating. For this reason, continuous learning is vital for their career development, and more importantly, we as shipping companies need to support them going forward. Many seafarers would like to take up senior positions such as Captain or Chief Engineer, so we need to ensure that they are given opportunities and get adequate support to pursue their studies.
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Mr. Carl Schou, President and CEO, Wilhelmsen Ship Management, in discussion with Giannis Theodoropoulos

THE SHIPPING INDUSTRY WILL NEED TO BE UNITED MORE THAN EVER

Decarbonization is high on the agenda of the global shipping community, and in this context, Wilhelmsen recently launched its New Energy segment. What are New Energy’s focus areas? How is the shipping finance landscape being shaped in terms of ESG requirements?

The Wilhelmsen group’s new strategy will accelerate the zero-carbon transition of its existing businesses while it shifts from oil and gas-supporting activities to those focused on renewable energy. The new business section – New Energy – will be spearheading this area of focus on renewable energy. New Energy covers NorSeaGroup, service operation vessel operator Edda Wind, hydrogen-fueled vessel project Topeka, autonomous shipping JV Massterly, digital accelerator RaaLabs, digital development company DoLittle, and 3D printing outfit Ivaldi.

Wilhelmsen Ship Management, a wholly owned ship management arm of the Wilhelmsen group, will be involved in all maritime activities in which New Energy is present. The current synergies play a good complementary role for WSM and New Energy, whereby our technical and crewing expertise will be utilized to manage all maritime assets involved. As climate risk escalates, most organizations are at the forefront of embracing the ESG requirements. The shipping finance landscape is naturally aligned to reduce their risk in non-sustainable investment. That has influenced the industry to increase its focus on ESG requirements. As ship managers, we are prepared to offer our full support to our owners’ decarbonization transition plan. We are currently assisting them in EEXI and CII compliance, new-building supervision of dual-fueled and alternatively fueled vessels, and focusing on increasing our crew competence to meet future requirements.

Given the sanctions imposed by many western countries on Russian natural gas, do you think the demand for LNG shipping will increase in the coming years? How is gas carriers’ management changing amid the significant challenges in the energy sector?

The LNG Carrier market has been one of our strongest growth segments in the past few years, and we expect this momentum to grow further in the short term. In the last two years, we have taken over the management of a few LNG Carriers, FSRUs, and an LNG Bunker vessel. We have not noted any changes in these assets’ management. The safety standards in this segment are among the highest in the shipping industry, and the competence required for such complex vessels is exceptionally high. Crew competence will continue to be one of our highest priorities to ensure that we continue to deliver our promises to our customers and the oil majors.

What solutions do you consider appropriate for shipping’s green transition? Will the ongoing crisis in Ukraine accelerate the decarbonization of shipping?

There is no quick fix to this as it is a chicken or egg situation in which fuel supply and the demand for a particular alternative fuel are not clear. The industry will need to be more united than ever and come together to align its transition journey. We are part of an alliance comprising a few stakeholders working on the execution framework for a green corridor. The objective here is to bridge these open-ended challenges with clarity that can help the industry move faster and in a more structured way towards the green transition.

By implementing the EEXI and CII, perhaps we...
would learn more and make further strides towards achieving this agenda. We hope the lessons learned here will lead to a more explicit approach to regulations and guidelines on alternative fuels.

**Wilhelmsen Ship Management recently acquired a majority stake in Ahrenkiel Tankers to strengthen its position in the tanker market.**

What are your thoughts on the tanker market prospects?
The tanker market segment is one of the segments most outsourced to third-party ship managers. We are optimistic about the growth of this segment and are working on a few major tenders in this segment.

**Seafarers have faced significant challenges for more than two years. How can ship-management companies ensure seafarers’ well-being? Are you worried that the shortage of officers on ships will increase in the coming years?**

Like many ship managers in the industry, we do what we can to ensure our seafarers’ well-being by instilling a just culture, creating a safe and inclusive working environment, and implementing a fair recruitment and equal opportunities policy for all seafarers. We recognize there are still many improvement areas where we can do more to ensure our seafarers’ well-being, and we are proactively working on these. In addition, we have participated in a working group led by the Sustainable Shipping Initiative (SSI) and the Institute for Human Rights and Business (IHRB) to deliver a project focusing on seafarer labor and human rights. The project has led to the delivery of a code of conduct that aims to raise the industry’s seafarer well-being standards above and beyond MLC compliance.

We hope to deliver a constructive way to improve the industry’s treatment of seafarers and, together with other stakeholders, to raise industry standards. Shipowners and ship operators can use the code of conduct to understand the extent to which their current operations meet the regulatory requirements on seafarers’ rights and responsibilities. It can also be used by charterers and cargo owners to enhance due diligence, which in turn informs making charter-related decisions.

Yes, we are concerned about officer shortages; hence it is crucial the industry consider the changes that need to be made to change the tide.

As climate risk escalates, most organizations are at the forefront of embracing the ESG requirements. The shipping finance landscape is naturally aligned to reduce their risk in non-sustainable investment.
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The President & CEO of Columbia Shipmanagement shares his views on the competitive advantage offered by third-party ship management, the impact of the war in Ukraine on crews, and the company’s general strategy regarding HR and crew management.

**SHIP MANAGERS HAVE TO BE ABLE TO DO MORE FOR LESS**

Shipping entrepreneurs with a traditional approach have been reluctant towards - if not totally against - third-party ship management. In the last few years, this approach has been reversed. What are the main reasons for this change of strategy, especially among younger shipowners?

Third-party ship management has to be relevant and compelling to its clients and the market to be successful, like any other product or service. Ship managers have to be able to do more for less and do it better than owner-operators. There is no reason why they cannot achieve this. They have to bring in scalability in processes, procurement, IT, training, health and welfare, investment in new technologies, efficiencies, and thinking. They need to harness the available technologies, resources, and commitment, thus providing each client with a tailored, non-commoditised service. If they can achieve all of this in partnership with their clients, their service becomes relevant and compelling. Under these circumstances, why would the next generation of shipowners not entrust their vessels to these ship managers and instead focus on the commercial aspects of ship operation?

The competitive advantage offered by third-party ship management to small and medium-sized ship-owning companies stems from economies of scale. How can a large-scale perspective coexist with the provision of quality services?

The argument that large managers cannot provide tailored services with the same degree of care and attention as the smaller operator – the proposition that small is somehow better when it comes to quality – is simply not sustainable. Scalability can be delivered in a focused, tailored manner.

It has been observed recently that countries with a significant population of mariners have promoted stringent policies regarding the travel requirements in and out of their borders. What are your thoughts on HR and crew management departments, and how should a company plan ahead in this unprecedented era?

There is no doubt that travel restrictions arising from the Covid pandemic and, later, the war in Ukraine have imposed enormous logistical challenges, particularly in crew rotations. I have to say that over the last two (plus) years, Columbia Shipmanagement has managed the situation by throwing its full weight and resources into expanding its excellent crewing departments, worldwide Manning agency network, and Performance Optimisation Control Room capabilities. Without these resources, combined with mental health, medical health, catering, and welfare services for our crews, we would not have been able to adapt to the challenges being thrown at the shipping sector every day.

How do you respond to the recent announcement of shipowners’ associations in favour of more shipping and maritime-related embargoes against Russia?

Columbia Shipmanagement is against the war in Ukraine. We view this as a “Russia war” as opposed to a war supported by the Russian people. That said, we appreciate that we are an international service sector.
The CEO of Signal Maritime elaborates on the short-term prospects of the tanker market and the digitalisation of shipping. Mr. Dimitracopoulos also shares his thoughts on how ship-management companies can attract and retain young and well-trained employees, the prospects of Athens/Piraeus as a multi-dimensional maritime center, and explains the growth strategy of Signal Maritime.

Tanker freight rates have been steadily dropping for more than a year due to the pandemic's side effects, although there has been an upward trend recently. What are the short-term prospects for the market, and how will the Russian invasion impact it?

We believe that freight markets will remain at healthy levels across most tanker segments. The disruption of the Russian oil flows will not be reversed in the near term, and the world recovery from Covid is already driving the increasing consumption of oil products. The invasion has also impacted the markets directly as large fleets of Russian interests were suddenly taken out of the market. In addition, Russian cargoes are gradually being transported to more distant ports (mainly to India and China vs. to European countries before the invasion) by a limited number of vessels due to the associated risks of high premiums - meaning that a non-Russian business faces reduced vessel supply and hence improved freight rates.

Additionally, we observe critical changes in some trading patterns. For instance, more VGO or Fuel Oil is exported from the Arabian Gulf to the US Gulf, while more CPP cargoes are transported to Latin America or Europe from the US.
What role does technology play in your ship chartering strategy?

Technology, combined with the irreplaceable human factor, plays a vital role in our chartering activities. While the human element is the catalyst for executing a successful chartering strategy, technology brings critical tools to assist our team. It provenly enables better decisions under stressful timeframes. Technology is indeed a key driver in minimizing inefficiencies at the pre-fixing stage. Chartering needs to obtain a dynamic overview of all regional markets. For example, reading similar emails from multiple sources with repetitive information is an inefficiency that technology such as our Signal Ocean Platform has optimized using Artificial Intelligence.

Reviewing the commercial strategy with the assistance of technology tools enables targeted discussions among the chartering team and thus proactive moves and better performance. For example, our Optimal Strategy Tool provides a clear overview of the best possible options for future employment based on the port where any vessel will be commercially available. This tool leverages historical trading patterns from all vessels on the water and recalculates the future earnings based on ongoing market levels.

Furthermore, the Spot Performance Management Tool is used to evaluate the team’s chartering decisions compared with the best option based on facts (i.e., actual business concluded in the market that the subject vessel could have physically performed). Our chartering desk then discusses the findings and identifies actions for performance improvement.

Leveraging technology certainly helps us excel in commercial performance; however, friendships and credibility are irreplaceable in shipping. So, we maintain our focus on building trust and providing excellent service to our partners.

Signal Maritime launched a new pool a year ago to manage MR tankers. How do you assess the progress of the pool so far? Is its modus operandi different from the corresponding Aframax pool? Are there any thoughts on extending to other types of tankers?

We are proud that the first anniversary of our MR pool brings us to the forefront of a highly competitive tanker segment and especially the MR pooling ecosystem. This was not a given. Achieving today’s performance levels through continuous improvement initiatives over the last 12 months has exceeded our expectations. Technology, combined with the hard work of a diversified, highly competent team, has been the catalysts for achieving this.

We launched the MR Pool in April 2021 with 3 vessels from Astra Shipmanagement and Signal, with Shell trusting us right after the pool inception by contributing 10 of their MRs - an unprecedented move by an oil major. The pool now numbers 18 vessels coming from five different partners. We are currently engaged in active discussions to broaden our partner base further and grow our fleet.

The modus operandi of the MR Pool does not differ from that of our well-established Aframax Pool. We rigorously apply...
the same logic, passion, and principles of fairness and flexibility to both pools’ performance. Our priority is to maintain a strong performance while developing the pools sustainably with partners who share the same passion for our principles.

Of course, having proved twice that the fast ramp-up of a new pool is something we can successfully manage, we have included plans for pools in new segments in our growth strategy. We generally prefer to operate in classes that sufficiently demonstrate the trading complexities required for Signal to achieve tangible overperformance and generate material benefits for its partners.

Several sociological studies have shown that attracting and retaining the new generation of workers is a complex equation. How does Signal Maritime manage to attract and retain young and well-trained employees?

At Signal, we believe that a fertile ground offering the right opportunities is needed for individuals to accomplish their aspirations. That is why we have carefully crafted a continuous learning & development journey which starts from the very first day someone joins Signal. Those who join Signal do not seek a conventional journey in the shipping industry but rather a challenging path to demonstrate their skill set and analytical capabilities in an open-minded culture while embracing established shipping practices.

An in-house onboarding plan tailored to the needs of each role consists of the Tanker Chartering Academy and, consequently, the Product Teams Rotation to provide a holistic overview of Signal, combining commercial ship management with AI-based tech products.

At the same time, retaining young talent requires continuous development and career progression. Through a structured Performance & Development program, we (a) set goals coupled with a learning plan supported by a generous annual learning budget per employee, (b) provide and receive constructive 360 feedback focused on individual and team growth aspects, and (c) engage in dialogue with everyone to find the path that fits them best.

Signalers value flexibility and the fact that there is more than one way to develop professionally in the company.

Despite its international outreach and cooperation with major players in the global shipping market, Signal Maritime chooses Athens as its management center. What are the reasons behind this strategy? Do you think that Athens / Piraeus can evolve into a multi-dimensional maritime cluster beyond ship management or ownership?

To date, Signal Maritime has managed to build a solid international partner base for its pools. Generally, I believe that creating value for partners who have trusted us or being a pioneer in technological aspects is agnostic to locations. Having said that, we fully believe in the global footprint of our growing company.

Although Greece can be parallelised with the Silicon Valley of ship owning, it is just getting started in the case of commercial management services. Hence, we acknowledge the importance of global presence and take action in this direction. In addition to our Athens and London offices, we have expanded our operations globally. Through this expansion, we want to make sure we stay in close contact with our partners and the Charterers and Brokers with whom we work together on a daily basis.

Although technology has been a great solution for meeting people, which proved particularly valuable during the pandemic, we firmly believe that nothing can be compared to physical meetings. Our team has started traveling again worldwide, and we have already observed the difference.

Finally, I am really positive that Greece is being transformed into a revamped global maritime cluster, combining the tradition with multiple fresh ideas and promising companies that emerge in the shipping sector and operate out of Greece.
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INTERNATIONAL

FULL STEAM AHEAD FOR QATAR’S LARGE SHIPBUILDING PROJECT
QatarEnergy signed a series of time-charter parties (TCPs) with a subsidiary of Mitsui O.S.K Lines (MOL) for the long-term charter and operation of 4 LNG ships, constituting the first batch of TCPs awarded under QatarEnergy’s massive LNG shipping program.
Concurrent with the signing of the TCPs, back-to-back LNG carrier shipbuilding contracts were signed between MOL and Hudong-Zhonghua Shipbuilding Group (Hudong), a subsidiary of China State Shipbuilding Corporation (CSSC), for the construction of four new LNG carriers to serve QatarEnergy’s LNG growth projects and future fleet requirements.
Commenting on the occasion, His Excellency Mr. Saad Sherida Al-Kaabi, Minister of State for Energy Affairs and President and CEO of QatarEnergy, said: “These contracts mark the start of the construction phase of QatarEnergy’s historic fleet expansion program in support of our LNG expansion projects. We are pleased to be working with our reliable business partners from China and Japan, namely MOL, Hudong, and CSSC, to take this important step together.”
“We look forward to announcing many more such contracts in the near future in our relentless pursuit to ensure a reliable supply of additional clean energy to the world,” Minister Al-Kaabi concluded.

SHIPPING & ENTREPRENEURSHIP
EURONAV REJUVENATES VLCC FLEET
Euronav NV purchased two eco-VLCCs, the Chelsea (2020 – 299,995 dwt) and the Ghillie (2019 – 297,750 dwt), for a total of USD 179 million in cash. They are sisters of its D-class vessels (Delos, (2021 – 300,200 dwt), Diodorus (2021 – 300,200 dwt), Doris (2021 – 300,200 dwt) and Dickens (2021 – 299,550 dwt). These vessels were all built in Korea at DSME, are fitted with scrubbers, and are the latest generation of ecotype VLCC. In parallel to this transaction, Euronav has sold four older S-class VLCCs for an en-bloc price of USD 198 million. A capital gain of USD 1.2 million will be recorded on the sale of these vessels. The four vessels are the Sandra (2011 – 323,527 dwt), Sara (2011 – 322,000 dwt), Simone (2012 – 315,988 dwt), and the Sonia (2012 – 314,000 dwt). All four vessels are non-eco VLCCs with significantly higher consumption and carbon footprint than modern eco-VLCCs.

MSC ORDERS
14 NEWBUILT CONTAINERSHIPS
According to international media, regular line company MSC has placed orders for 14 containership newbuildings of 7,000 TEU capacity. Although MSC maintains a no disclosure communications policy concerning information about its new projects, the New Times Shipyard in China has apparently confirmed the order to news agencies. The delivery of the ships is expected to take place between 2024 and 2025. It is the first time MSC is partnering with New Times shipyards, which build containerships for other European shipowners. According to analysts, these ships with a 7,000 to 8,000 TEU capacity are becoming increasingly popular as they can be deployed on medium-distance sea routes with significant freight flow, especially in SE Asia, the Persian Gulf, and within the Mediterranean and the North Sea.

DYNAMIC ENTRY OF VIETNAM INTO THE CONTAINERSHIP MARKET WITH A $ 1.5 BILLION INVESTMENT
Vietnam is making a dynamic entry on the map of international shipping as it plans to develop a national containership fleet in a period of very high shipping costs and significant logistics disruptions. The Vietnam Logistics Business Association recently unveiled its plans for devel-
oping firstly intra-Asia shipping operations that would later expand to international operations with the support of private capital. The association’s new strategy is in line with the government’s goal to make Vietnam “a developed, high-income country” by 2045. The association pointed out that having a fleet of container ships would reduce the “huge amount of foreign currency” spent on shipping by the government, reduce reliance on foreign shipping lines and exposure to freight rate increases and surcharges, and provide a tool for long-term economic security for the country.

This development is important for the Asian country, considering that 90% of its trade is carried out by sea, although its fleet has a market share of only 7%. Vietnam has ten shipping companies managing 48 containerships, with a total capacity of 39,500 TEUs. Of these, 13 are over 25 years old, and 15 have a carrying capacity of between 300 and 600 TEUs, performing inland voyages. Only 14 of these have between 1,000 and 1,800 TEUs capacity and can operate on intra-Asian routes. Based on the above data, it becomes clear that the growth of the Vietnamese fleet is a big bet but also a top priority. Finally, it is worth noting that the first phase of this ambitious plan will last three to five years and includes investments of $1.5 billion, of which $1 billion will be allocated to the acquisition of containerships.

SUEZ CANAL: RECORD MONTHLY REVENUES

The Suez Canal recorded its highest monthly revenue to date in April, raking in $629 million (€596.5 million) from the collection of transit fees. The chairman of the Suez Canal Authority (SCA), Osama Rabie, stated that April’s monthly revenue rose by 13.6% year on year and that 1,929 vessels had sailed through the Suez Canal in April 2022, compared to 1,814 in April 2021.

The 193.30 km-long Suez Canal is an artificial sea-level waterway connecting the Mediterranean Sea with the Red Sea.

LIDL ENTERS THE SHIPPING INDUSTRY

Lidl’s recent decision to enter the shipping industry by setting up a shipping company has given new impetus to the trend of companies outside the shipping industry entering the shipping industry, which was particularly strong in 2021. Inspired by American and British retail companies, the German supermarket chain is dynamically entering the shipping industry by establishing its own container shipping company, Tailwind Shipping Lines, to Lidl’s transportation needs, ensure the smooth running of its supply chain operations, and avoid the risk of astronomical freight rates and the congestion headaches that inevitably delayed delivery of its products in 2021.

According to Wolf Tiedemann, CEO of Lidl Stiftung & Co. KG, which owns the newly formed Tailwind Shipping Lines company, this move by Lidl is part of a long-term strategy to increase its flexibility.

BLUE ECONOMY

MARINE SPECIES IN DANGER DUE TO CLIMATE CRISIS

A study published recently in the prestigious journal Science Review warns that unless greenhouse gas emissions are reduced, species living in the oceans could be decimated by 2300 as they did 250 million years ago when the warming of the oceans and oxygen depletion had led to the extinction of more than two-thirds of marine animals. But limiting the warming of the planet to two degrees Celsius above pre-industrial levels will help avert such a catastrophic scenario, according to the researchers.

The researchers used models that analyze the relationship between marine temperatures and depletion of oxygen levels due to climate change and the amount of oxygen needed for species to survive. The findings are alarming: if greenhouse gas emissions on the planet continue to rise, marine species could face mass extinction by 2300. Under this scenario, the tropical oceans would lose the most species, although many would migrate to higher latitudes to survive. Polar species would disappear en masse, as they would have nowhere to go. Experts say that mass extinction could be avoided if ocean overheating is limited to 2°C.

In the accompanying commentary, the scientists wrote they believed there is still time to reverse this trend because marine extinctions are not as widespread as those on land. “Exactly where our future lies - in the worst-case or the best-case scenario - will depend on society’s choices.

SHORE POWER GOES LIVE AT PORT OF SOUTHAMPTON

Associated British Ports (ABP)’s Port of Southampton has celebrated the successful commissioning and use of its shore power facility for cruise ships. Shore power-enabled ships can now plug in at the port’s Horizon Cruise Terminal and Mayflower Cruise Terminal for zero emissions at berth.
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AIDA Cruises’ brand-new AIDacosma and Cunard’s iconic Queen Mary 2 can now use the port’s shore power. Further cruise ships scheduled for commissioning throughout the year include Celebrity Cruises’ brand-new ship Celebrity Beyond, which made her maiden call to the port in April, and Norwegian Cruise Line’s Norwegian Prima, which will make a number of calls in the summer and autumn. The total shore power project cost was £9m, supported by a Solent Local Growth Deal grant arranged through the Solent Local Enterprise Partnership (LEP).

ABP Southampton announced in 2019 that it was investing in shore power for its new Horizon Cruise Terminal, subsequently announcing a second shore power connection, for Mayflower Cruise Terminal, in 2021. ABP worked with Powercon as the main contractor to implement the scheme on site.

THPA: £200 MILLION OF UPCOMING INVESTMENTS
The Thessaloniki Port Authority (ThPA S.A.) has planned investments amounting to 150-200 million euros in the next five years. Since March 2018, when the port was placed under private management to date, a total of about 53 million euros has been invested, 8 million of which since the beginning of 2022. The above was pointed out by the Finance Director Henrik Jepsen during the Ordinary General Meeting of the Shareholders. More specifically, in his initial speech during the proceedings of the general assembly, the Executive Chairman of the Board of Directors of ThPA S.A. Athanasios Liagkos reminded the board that a contractor had been appointed for the 6th pier. This is the most important project in the port’s mandatory investments “package,” estimated at 150 million euros; it will allow the port to accommodate so-called “ultra-large container vessels,” i.e., ships of up to 24,000 TEUs capacity.

Regarding the cooperation agreement with the Suez Canal Economic Zone (SCZone), Mr. Liagkos noted that the goal is to develop and increase the operational activities of the port of Thessaloniki and other freight routes from large logistics centers directly to Central Europe markets (and beyond). He announced that working groups have already been set up, which will specify the areas for the development of synergies, which, among other things, may include the creation of shipping lines for vulnerable products but also the further development of the cruise. The European Maritime Safety Agency (EMSA), in cooperation with Germany’s Federal Maritime and Hydrographic Agency, is to launch a large-scale emissions-monitoring campaign using drones.

A specially designed drone will measure the sulfur content in ships crossing the Baltic Sea emissions over a three-month period to detect violations of the applicable limits. At the same time, imagery data will be collected for hydrographic topography purposes.

CELEBRATING THE EUROPEAN MARITIME DAY
The European Maritime Day (EMD) is the annual two-day event during which Europe’s maritime community meet to network, discuss and outline joint action on maritime affairs and sustainable blue economy. EMD is the place where ‘Ocean Leaders Meet’. It provides an engaging and complete interactive experience to catch up on the current state of play on a broad range of issues concerning the blue economy and the marine environment and discuss ways of moving forward. EMD targets professionals from businesses, governments, public institutions, NGOs and academia.
The 2022 edition of European Maritime Day took place in Ravenna, Italy, on 19-20 May as a hybrid event for 750 physical participants. This year’s main theme is ‘Sustainable blue economy for green recovery’.

All the sessions were organised in a physical format, with speakers and moderators in the venue. In parallel, all the sessions were available for remote participants via webstreaming or ZOOM.

Virginijus Sinkevicius, EU Commissioner for Environment, Oceans and Fisheries was the keynote speaker in the opening session. He was joined by Enrico Giovannini, Italian Minister of Sustainable Infrastructures and Mobility, Michele De Pascale, Mayor of Ravenna and Andrea Corsini, Councillor for Mobility and Transport, Infrastructure, Tourism & Commerce of Emilia Romagna Region.

GEOPOLITICS

THE US BANS RUSSIAN SHIPS FROM ITS PORTS

Following the example of Canada and many European countries, the US is banning Russian ships from docking in US ports as another step to intensify its pressure on Moscow.

“This means that no ship that sails under the Russian flag or is owned by a Russian entity will be allowed to dock in US ports or approach our shores. None,” said US President Joe Biden.

According to sources cited by Reuters, in 2021, Russian vessels made about 1,800 calls to US ports - less than 3% of total traffic.

It is worth noting that in March 2022, the US banned all imports of oil and other energy products from Russia. However, the US has sounded the alarm about a similar decision by the European Union.

RUSSIA HALTS GAS EXPORTS TO POLAND AND BULGARIA

Russian energy giant Gazprom announced on Wednesday, 27 April, that it had halted gas exports to Poland and Bulgaria after both countries refused to pay for supplies in roubles, but clarified that it was still supplying gas to Europe via Ukraine on demand.

Poland and Bulgaria are the first two countries whose Russian gas supplies were cut off after Moscow invaded Ukraine on 24 February. “Gazprom has completely suspended gas supplies to Bulgargaz (Bulgaria) and PGNiG (Poland) due to non-payment in roubles,” said a spokesman of the Russian company.

He also warned that gas supply to Germany, Hungary, and Serbia, which passes through Poland and Bulgaria, would be cut off in the event of unauthorized detention by Warsaw and Sofia.

Russian President Vladimir Putin has called on countries he describes as “unfriendly” to agree to a plan to open accounts with Gazprombank for Russian gas payments, with the latter undertaking to convert the currency into roubles.

“Payments for gas deliveries after 1 April should be made in roubles using new payment information the parties have been informed about on time,” said Gazprom.

SOUTH KOREA TO PARTICIPATE IN A MEGA FREE TRADE AGREEMENT

South Korea has announced its decision to enter into a free trade agreement with Asian countries as Seoul seeks to diversify its export portfolio amid heightened economic uncertainty.

The country is in the process of submitting an official application to the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), signed in 2018 by 11 countries: Australia, Brunei, Canada, Japan, Malaysia, Mexico, New Zealand, Chile, Singapore, Peru, and Vietnam. It is noted that in 2020, member countries accounted for about 15% of world trade volume ($ 5.2 trillion).

South Korea is not the only strong economy with aspirations to join the CPTPP. In a multilevel strategic move, China has expressed its desire to participate in 2021. If it succeeds, it will further increase its influence in world trade. The prospects of China joining the CPTPP also raise concerns in Taiwan about damaging its relations with Beijing.
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CHINA-SOLOMON ISLANDS AGREEMENT: WILL IT BRING THE CHINESE FLEET A BREATH AWAY FROM AUSTRALIA?

China and the Solomon Islands announced a security-focused agreement on Tuesday, 19 April, raising concerns about the wider region’s stability in both the West and the East. Under this agreement, China will be able to provide defense assistance to the Solomon Islands, which have been facing widespread internal unrest recently. According to a Beijing official, the agreement does not affect third parties, but this statement does not reassure international powers. The United States, Japan, Australia, and New Zealand are worried the agreement will leave the door open for China to send military forces to the islands, which are relatively close to Australia, as the distance between the Solomon Islands and Australia is approximately 1,600 km. Therefore, fears that this agreement will lead to the establishment of a Chinese military base in the Solomon Islands can not be described as unfounded. These fears are further exacerbated by the tense political relations between Canberra and Beijing, whose impact is evident in their trade relations. However, the Solomon Islands deny that the agreement “opens the door” to such a base.

China’s expansionist move is part of its strategy to increase its influence on the broader region. At the same time, it may be Beijing’s response to the newly formed AUKUS Defense Alliance established by Australia, the UK, and the US. AUKUS was created in 2021 to safeguard the security and stability of the region, which has displeased China.

LAUNCH OF CYPRUS-GREECE FERRY CONNECTION

The ferry connection between Cyprus and Greece will begin operations on 19 June with a ferry departing from the port of Limassol for Piraeus. It is reminded that the sea passenger connection Greece-Cyprus was interrupted 21 years ago as it had been considered unsustainable. In a joint press conference with representatives of Scandro Holding Ltd on Friday, 29 April, the Deputy Minister of Shipping of Cyprus Vassilios Demetriades announced that the Limassol - Piraeus line would be operated by Scandro’s Cypriot- flagged MV Daleela, a passenger ferry with a capacity of 400 people built in 1991.

As Mr. Demetriades stated, the public’s support for the project is of great importance. Scandro Holding Limited CEO Marios Michael noted that although the contract provided for a restaurant and cafeteria operation, the company had decided to add additional bars, a playground, and other entertainment areas. As for the restaurant, the prices will be affordable and will not exceed 12 euros per full meal. The ferry will depart from Limassol to Piraeus on Wednesdays and Sundays and from Piraeus to Limassol on Tuesdays and Fridays. The last route in 2022 will be carried out on 16 September. The journey from Limassol to Piraeus will last 30 hours.
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THE CRUISE INDUSTRY SAILING BACK TOWARDS A BETTER FUTURE

At Seatrade Cruise Global in Miami, Florida, Cruise Lines International Association (CLIA) shared new findings that are evidence of the cruise community’s resilience.

“As the industry resumes operations, passenger volume is expected to recover and surpass 2019 levels by the end of 2023, with passenger volumes projected to recover 12% above pre-pandemic levels by the end of 2026,” said Kelly Craighead, President and CEO, CLIA. “Cruising is accessible, responsible, and experiential - making it the best way to see the world for people of all ages and interests. With the support of an incredibly resilient community, the future of the cruise industry is bright.

Highlights of the consumer research:

- Intent to cruise is rebounding, with 63% of cruisers or potential cruisers indicating they are ‘very likely’ or ‘likely’ to cruise in the next two years.
- 69% of respondents that have never cruised said they are open to a cruise, exceeding pre-pandemic levels.
- Millennial cruisers are the most enthusiastic about taking another cruise, with 87% indicating they will take a cruise in the next few years, followed by Gen X at 85%.

The announcements include a commitment that by 2035 all ships calling at ports where shore-side electricity (SSE) is available will be equipped to use SSE, allowing engines to be switched off and effectively eliminating carbon emissions while berthed at port. Where shoreside power is not available, the ships will use available alternative low carbon technologies required by ports.

Recognising that shoreside power is only one pathway to decarbonisation, CLIA also shared that it will join the Global Maritime Forum Call to Action for Shipping Decarbonization to make zero emission vessels and fuels the default choice by 2030.

“The cruise industry has an extraordinary ability to innovate, and we want to channel our collective expertise and commitment to help find solutions as an active partner in the effort to decarbonise shipping. We continue to set ambitious carbon reduction goals as an industry, and cruise lines are showing the way by partnering with fuel suppliers, shipyards, technology manufacturers, and academic institutions to develop new lower carbon fuel sources. We are investing in our future,” said Pierfrancesco Vago, Chairman, CLIA.

GRIMALDI DEPLOYS THE VESSEL IGOUMENITSA ON THE DAILY SERVICE BETWEEN SOUTHERN ITALY AND GREECE

The Grimaldi Group will deploy the vessel Igoumenitsa on the daily Ro-pax line Brindisi-Igoumenitsa. The Igoumenitsa will replace the ship Florencia, temporarily deployed on the line, improving the service offered to the Group’s customers in terms of both transport capacity and comfort on board.

The Italian-flagged vessel Igoumenitsa can carry about 800 passengers and 3,120 linear meters of rolling freight (cars, vans, trucks, semi-trailers, etc.). She has 191 cabins (a total of 459 beds) of various types (inside, oceanview and superior-class), all with en suite facilities and air conditioning, some of which are equipped for passengers with reduced mobility.

With the introduction of the Igoumenitsa, the Grimaldi Group carries out a significant upgrade of the service currently offered on the Brindisi-Igoumenitsa line, with 1,100 more linear meters dedicated to cargo and about 100 more cabins (and 70 beds) available to passengers and drivers. In addition, the latter will enjoy the voyage and relax in even larger common areas, such as the bar and the self-service restaurant.

The Igoumenitsa will depart every day from Brindisi at 1.00 pm and arrive in Igoumenitsa...
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at 9:30 pm. Departures from the Greek port will be at 11:59 pm, arriving at the Italian port at 9:00 am the following day.

In addition to the Brindisi-Igoumenitsa line, the Grimaldi Group operates the Ancona-Igoumenitsa and Ancona-Patras routes to transport freight and passengers between Italy and Greece. The company also runs the Venice-Bari-Patras service, dedicated exclusively to the transport of rolling freight.

FAVORABLE OUTLOOK FOR THE GREEK CRUISE INDUSTRY

At a special event held at the Lavrio Port Authority for the official launch of the Celestyal Cruises’ cruise program with the cruise ship “Olympia,” the Greek Minister of Maritime Affairs and Insular Policy Giannis Plakiotakis pointed out that “More than 700 cruise ships are expected to sail in the Greek seas in 2022.

“According to the available data,” said Mr. Plakiotakis, “more than 700 cruise ships will be in the Aegean. Of these, 570 and more will do homeporting in Greece, while the rest will do the rest will be transit.”

“2022 will be an economically uplifting tear for the cruise industry that will significantly strengthen the local economies while increasing tourist flows,” he added.

“In a period of international crises and reorganizations,” he noted, “Greece is a perfectly safe destination. An international destination with exceptional climatic conditions and, of course, the unique traditional Greek hospitality.”

Regarding the Port of Lavrio, the Greek Minister of Maritime Affairs and Insular Policy noted that “this is also in an evolution and modernization phase. We are currently in the final stretch of constructing the five floating piers for hosting yachts, with 192 new berths in a special geographical point in great demand”.

CAUTIOUS OPTIMISM AS NEW ZEALAND CRUISE SECTOR GETS GREEN LIGHT

After two years of closed maritime borders, recent news that cruise ships can return to Aotearoa’s waters without restrictions from 31 July has been greeted with a sense of cautious optimism and relief, said the New Zealand Cruise Association.

New Zealand Prime Minister Jacinda Ardern announced that the maritime border will reopen without added restrictions meaning that cruise lines can start confirming port calls and preparing ships with certainty, noted the Association’s Chair Debbie Summers.

“New Zealand is an important destination for cruise lines and with worldwide demand for cruising strong again, combined with excellent regional dispersal, this sector ticks every box for value.

"After two years of hardship, hundreds of Kiwi ship suppliers and tourism operators can start rebuilding their businesses back, helping communities that have suffered during our pandemic years and begin preparing with confidence to provide our top service to cruise visitors.”

Ms Summers says after such a long absence of cruise ships, opening the maritime border is only the beginning. To ensure the cruise sector is delivering a fantastic visitor experience will require a commitment and extremely hard work from ports, inbound tour operators, Regional Tourism Organisations, local tour operators, and the thousands of people in every region who work to make the immersive cruise experiences a success.
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Greece is dynamically entering the cruise map as, for the first time, a cruise ship of MSC Cruises will have a homeport in our country, and the company’s visitors will be able to board in Piraeus. On the occasion of the festive event for the launch of MSC Lirica’s itineraries from the Port of Piraeus, we met the Executive Director of MSC Cruises, Mr. Angelo Capurro, who spoke to us about why the company chose Piraeus as a homeport, the cruise industry’s significant challenges, and MSC Cruises’ overall development strategy.

What were the reasons behind MSC Cruises’ choice of Piraeus as the homeport of MSC Lirica? Do you believe Greece has favorable long-term prospects of becoming a strong cruise market?

I would like to point out that the decision to make Piraeus the homeport of MSC Lirica had already been made prior to the pandemic but was postponed due to events that unfolded following the spread of the virus. Thus, the choice was not made due to necessity but was rather part of MSC Cruises’ strategy, believing in the developing prospects of Greece’s cruise market.

This strategic choice was made based on two main points. First, we believe that the port of Piraeus constitutes a solid alternative and provides the most promising opportunities for scalable growth compared to the rest of the East Mediterranean ports. While Venice used to be the homeport of many of our ships, the available alternatives in North Italy are not equally promising. For instance, Trieste faces some
transportation and connection issues. Based on similar reasoning, only two ports in the East Med were able to safeguard MSC Cruises’ strategic goals and provide ample connection with many countries: Piraeus and Istanbul. Connection is a crucial aspect of choosing a homeport. The vaster the flight network with different countries in the world, the more the cruise market can prosper since it is heavily reliant on other transport nodes.

Second, when examining possible courses for Mediterranean cruises, starting from the south in East Med provides more interesting itineraries. On a similar note, while they are not yet clear or definitive, the upcoming environmental regulations make us take into consideration the vessels’ speed. Low speed leads to less power usage, less consumption, and subsequently to less pollution. Even if there is not a united “front” regarding emissions regulations at the moment, we want to take the initiative in preserving the biodiversity and protecting the world’s seas and oceans. The itineraries starting from the south East Med are beautiful and, at the same time, require less speed.

The pandemic has posed many considerable problems for the cruise industry over the last two years. Do you believe that we are finally entering a post-pandemic favorable. At the same time, Piraeus industry?

At the moment, we are in no position to make accurate assessments regarding the pandemic’s impact on the foreseeable future. This becomes especially apparent when examining the different guidelines different governments employ regarding the pandemic. An itinerary may pass through many different countries, which will require us to follow different regulations based on where the vessel is. For instance, in the current itinerary of MSC Lirica, we require a PCR test because it is necessary for Israel. Nonetheless, we are starting to see the light at the end of the tunnel. This past winter, we deployed thirteen ships in areas around the globe we were operating prior to the pandemic. By the end of April, all our vessels were back in operation. It should be pointed out that there are still many restrictions, like the one regarding occupancy, which is required to stay well below 100% to guarantee there exists ample space on board for quarantine in case of Covid-19 cases during the itinerary. However, we remain vigilant and, thanks to our Protocol’s flexibility, we will apply additional safeguards if and when the local authorities and/or the health situation ashore requires it.

Another big challenge for the shipping industry is the rising cost of bunker. How has MSC Cruises coped with this issue?

MSC Cruises has been strategically buying oil while the prices are lower. Thus, the rise in expenses during this period of turmoil has been offset by the limited expenses our strategy has offered thus far. The MSC fleet as a whole consumes a great amount of fuel oil— the cargo unit of MSC has approximately 600 vessels – and strategic planning is required. In any case, the rising oil prices will surely affect MSC, but the carefully planned itinerary allows for lower speeds, which provides the benefit of lower consumption. For now, MSC will approach the challenge of rising oil prices strategically rather than increasing its rates.
What are the main strategic goals of MSC Cruises in the long term?

We are very confident that we will become one of the leaders in the cruising industry. We are already the industry leaders in some countries or areas. We never stop moving forward. For instance, we were the first cruise shipping company to restart operations during the pandemic.

Right now, we are focusing on our detailed growth plan until 2026, but naturally, we won’t be stopping there. Our people are always eager to provide new suggestions to help MSC take the next step towards its goal.

One of our latest steps towards growth was the sponsorship with Formula 1. Apart from being a huge sponsorship, it also attracts interest in the industry. Following our sponsorship, we are planning to match the itinerary of our ships to ports where F1 races take place. This will also help to spread the word about cruising. Cruising is not as famous in the Mediterranean as in the US.

Another major aspect of our growth is our investment strategy. MSC Cruises has grown exponentially during these past ten years and is growing faster than its competitors because we are investing a large amount of capital. At the same time, our investments do not focus on replicating successful prototypes but rather on introducing new ones, offering diversity in our fleet and capabilities, and becoming better suited to satisfy any needs our clients may have. Even if it is more cost-effective to have only one type of vessel, we operate three different classes of cruise ships at the moment. Our variety of vessel types derives from the fact that we operate in many different areas. Not all types of ships are appropriate for every area.

Seaside class vessels are designed to be deployed in sunny areas with mild winters that allow the passengers to stay outside. Thus, seaside class vessels have larger exterior areas compared to others. On the other hand, Meraviglia class vessels have more space inside than outside because this prototype was designed to be used on many winter itineraries. The different kinds of prototypes offer flexibility, which renders us more reactive to different kinds of needs. That differentiates us from our competitors and provides a huge advantage.

Even if there is not a united “front” regarding emissions regulations at the moment, we want to take the initiative in preserving the biodiversity and protecting the world’s seas and oceans.
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The recent report of the International Chamber of Shipping, “Table of Performance of the State of the Maritime Industry Flag,” confirmed the outstanding performance of the Panamanian Registry in terms of security. What initiatives and actions have been taken to ensure this high performance?

For consecutive periods, the International Chamber of Shipping Flag State Performance Table has given the Panama Ship Registry an outstanding rating in matters related to the Port State, ratified conventions, recognized organizations, fleet age, reports, and maritime meetings, as the audits of the International Maritime Organization (IMO).

This qualification represents years of strategic decisions and implementations focused on improving the performance of the vessels that use its flag through concrete actions of the General Directorate of the Merchant Marine of the Panama Maritime Authority (PMA).

Among them, we can highlight:

- International compliance has been prioritized, with actions such as the creation of the Fleet Control and Monitoring Sections within the Department of Navigation and Maritime Safety, in charge of the analysis and due diligence process for vessels wishing to register in Panama, as well as monitoring the positioning of the ships of the Panamanian fleet to which the LRIT applies.
- Additionally, the Implementation, Control, and Execution of International Measures section was created in the Resolutions and Consultations department, which, as its name implies, reviews the measures adopted internationally to implement them in the fleet and Maritime Administration.
- The department of Recognized Organizations (Ros) is also reinforced in order to continue supervising the work of ROs on behalf of our flag.
- By 2022, the Registry will have included new platforms for service and supervision of its fleet in matters of maritime investigations, LRIT, risk analysis, vessel detentions, and flagging issues to provide better service to customers.
- Actions related to the responsibility of Panama as a Port State Governing Body have been implemented.
- A fleet performance analysis has been carried out according to the MoUs, and methodologies

As a Flag State, Panama has retained its vital role in world merchant shipping, and the Panama Canal has consolidated its position as a major artery of international maritime trade. The following pages present the challenges and opportunities facing both the Panama Registry and the Panama Canal.
have been implemented to support the Panamanian fleet’s optimal performance.
• Coordination meetings have been held with the Registry’s various strategic partners, including clients’ legal representatives, Consulates of the Merchant Marine, ROs/RSOs, and authorized Flag inspectors. Also, meetings with local Port Authorities to strengthen cooperation and channels of communication and exchange points of view and ideas.

What projects or improvements will the Panamanian Registry have for 2022?
2022 will be a year of technological transformation for the Panamanian Registry since it is investing in new service and fleet supervision platforms, maritime investigations, LRIT, risk analysis, and ship arrests. These tools help improve the Registry’s competitiveness in commercial aspects and flagging issues to provide better customer service.
In the same way, Registry documents are mainly issued electronically so that the client’s management is carried out in less time and the use of paper is reduced. In 2022 we will complete the final modules of certificate digitization to accomplish 100% digitalization.

What specific measures have you implemented to improve your client services and support the international maritime industry?
To maintain its position in the industry, Panama is implementing strategies and measures that positively contribute to its clients and the international maritime industry. In this context, we can mention:
• The renewal of the agreement between the governments of the Republic of Panama and the People’s Republic of China on Maritime Transport: the agreement is for five years, which strengthens commercial relations and the commitment of the Ship Registry to its users who enter ports located in the People’s Republic of China. Moreover, it represents a series of advantages for shipowners who use the Panamanian flag on their vessels.
• Significant investment has been made in technology issues since the beginning of this Administration; for example, the new platform for the Maritime Processing System and Electronic Ship Registry (REN) put out to tender, the inclusion of new modules in the E-Segumar, and the validation of electronic certificates through QR codes.
• Panama encourages the use of new technologies that help preserve the environment through its Incentive Program, which includes special costs for newly built ships and ships that show corporate social responsibility programs focused on reducing air or sea pollution.
• In this sense, Panama has included parameters to integrate a special Eco Ship incentive for a renewable period of 3 years for ships wishing to register or already part of the Panamanian merchant marine, provided they show that their EEDI, EEXI, or CII meet the established requirements. The same applies to ships that prove they are powered by alternative fuels that contribute to decarbonization. In this way, the Registry continues its international compliance agenda and the inclusion of mechanisms that allow it to continue to compete and at the same time incorporate the requirements arising from the commitments it has undertaken at the IMO as a responsible country.
• Panama is a signatory to the Declaration of Zero Emissions in the Maritime Industry by 2050, whose main objective is that the signatories commit to reducing international maritime transport to zero emissions and working at the IMO to adopt...
objectives for 2030 and 2040 to achieve the industry's decarbonization by 2050.

- The Panamanian Ship Registry continues to provide the IMO with data collected on fuel oil consumption according to MARPOL requirements. The Panamanian flag achieved optimal compliance in issuing certificates and reporting its fleet’s fuel consumption on the GISIS platform.

- Panama is present in crucial forums where environmental industry regulations are reviewed. For example, it recently participated in the seventy-seventh Marine Environment Protection meeting (MEPC 77), where topics related to ballast water, atmospheric pollution prevention, the energy efficiency of ships, and the reduction of greenhouse gas (GHG) emissions from ships were discussed.

- The Panama Maritime Authority signed an MoU with Class NK on Cybersecurity, aware of maritime transport's role and the risks it faces due to the technological growth on board. In this context, the PMA wants to encourage all Panamanian fleet shipowners, operators, and other interested parties to report any cyberattack incidents. That will help better understand the cyber threats that ships are exposed to and implement more effective measures to control such risks.

- Panama is a member of the Maritime Anti-Corruption Network, BIMCO, Intercargo, Intertanko, and the International Association of Drilling Contractors.

- The human capital of the Panamanian Registry, both technical and administrative, is on a continuous training program on topics that range from international agreements to customer service.

**THE PANAMA CANAL HAS EXPANDED TO BECOME AN ADVOCATE FOR SUSTAINABLE SHIPPING**

Replies from the office of communication & corporate image of the Panama Canal Authority.

**What is the current relationship of the Panamanian Registry with the Greek shipowners?**

Our Greek partners, who are leaders in the international maritime industry, represent an important market for the Panamanian Ship Registry. To promote the Panamanian Ship Registry and attract new clients, the Directorate General of Merchant Marine representatives traveled to Greece at the end of 2021. They met with more than 20 important companies. During this working tour, they held a breakfast meeting with technical personnel from different Greek companies and Panama’s clients to talk about technological projects and platforms, cybersecurity, and the positive rating of the Registry in the performance table of the International Chamber of Shipping.

Representatives of the Panamanian Registry and members of the Embassy of Panama in Greece were present at the “Lloyd’s List Greek Shipping Awards” event, with more than 700 personalities of the international maritime industry. Panama values its long-lasting relationship with Greek shipowners. For this reason, the PMA headquarters and the Embassy and General Consulate of Panama in Greece work closely together to provide the best service to Greek shipowners and shipping companies and have programmed further visits in 2022.

**What initiatives has the Panama Canal Authority introduced to promote decarbonization and biodiversity protection as shipping undergoes a sustainable transformation?**

As a shortcut in the logistics chain, the Panama Canal naturally enables shipping lines to take shorter voyages, leading to lower emissions. However, we have also long recognized the importance of building beyond these core offerings. Thus, we have spent the past few years introducing efforts to maximize the route’s sustainability and contributions to global responses.
to climate change. One of the core ways we promote decarbonization in the maritime industry is through the Green Connection Environmental Recognition Program. Through this program, the Canal recognizes customers who demonstrate excellent environmental stewardship, including the use of low-carbon fuels and environmentally conscious routes. This program also equips customers with several tools to incentivize sustainable shipping further. The most recent addition is the CO₂ Emissions Dashboard, which tracks the amount of carbon emissions customers saved by traveling via the Panama Canal over alternative routes.

With climate change rapidly impacting global supply chains, the Panama Canal has since expanded to become an advocate for sustainable shipping and route optimization as a means to reduce emissions. In April 2021, the waterway announced its goal to reach carbon neutrality by 2030. It also joined more than 150 organizations in the Call to Action for Shipping Decarbonization, urging world leaders to help further accelerate the decarbonization of shipping. The Canal is currently finalizing its detailed decarbonization roadmap, which will outline the specific measures it will take in the coming years to achieve its carbon neutrality goal, including generating electricity from renewable sources, consolidating facilities to minimize the impact of its operation’s footprint, and migrating the Canal’s fleet to electric vehicles and hybrid tugboats.

The Panama Canal is also committed to protecting natural resources within the Panama Canal Watershed, thereby supporting habitats for wildlife. For instance, the Canal has taken tremendous steps to conserve water, including reforestation projects and working with the local communities, which in turn makes the area protected and habitable for the wildlife species. We also know that protecting biodiversity requires support from all stakeholders, which is why the Canal partners with the Ministry of the Environment (MiAMBIENTE), the Ministry of Agricultural Development (MIDA), the Ministry of Education (MEDUCA), and the Smithsonian Tropical Institute.

In 2021, world trade posted a record recovery, with shipping at the forefront of this development. How has maritime traffic through the Panama Canal been affected by this recovery, and what are the Canal’s short to medium-term prospects for further recovery?

As seen across the logistics industry, global economic recovery has reshaped traditional trade patterns in recent months, including arrivals at the Panama Canal. Despite widespread strains on global supply chains, the Canal has been able to continue its operations undisturbed and enable the flow of global trade, successfully accommodating the recent rise in traffic demand. In 2021, we saw a swift increase in trade forecasts, from an expected 9% decline in October 2021 to an unprecedented surge in demand for consumer goods. Rather than a decline in trade, we saw 8.7% more tonnage travel through the Panama Canal in our 2021 Fiscal Year (FY21), which ran between October 2020 and September 2021, compared to FY20. In the future, we expect manufacturing hubs to move closer to consumption centers, resulting in the re-structuring and regionalization of international supply chains.

The Canal’s operations and transit reservation system have been modified to adapt to the economic recovery and plan for future trade disruptions by offering customers additional booking options and flexibility. We have also worked on water conservation initiatives to ensure that the Canal can maintain an operation draft, which will allow larger ships with a greater amount of cargo to pass through the Canal.
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WORLD BANK: WORRYING ESTIMATES ABOUT THE IMPACT OF INFLATION

The shock of rising food and fuel prices worldwide linked to the Russia-Ukraine war is expected to last at least until the end of 2024, increasing the risk of stagflation, the World Bank said in its latest Commodities Market Outlook report.

In its first comprehensive analysis of the war's impact on commodity markets, the World Bank reported that the world's commodity markets have been facing the greatest shock since the 1970s – aggravated by restrictions on food, fuel, and fertilizers trade that are exacerbating the increasing inflationary pressures around the world.

"Policymakers should seize every opportunity to increase economic growth in their country and avoid actions affecting the global economy," said Indermit Gill, Vice President for Equitable Growth, Finance, and Institutions at the World Bank.

Russia is the world's largest exporter of natural gas and fertilizers and the second largest exporter of crude oil. Ukraine and Russia account for almost a third of the world’s wheat exports, 19% of corn exports, and 80% of sunflower oil exports. Production and export of these and other commodities have been disrupted since Russia invaded Ukraine on 24 February.

In view of the above, the World Bank expects energy prices to rise over 50% in 2022 before dropping in 2023 and 2024, while non-energy commodity prices will surge over 50% by 2022, including agriculture and metals, will increase almost 20% in 2022 before they begin to decrease.

The bank projected a slight drop in commodity prices that will remain well above the most recent five-year average in the medium term.

"In the event of a prolonged war or additional Western sanctions on Russia, prices could be even higher and more volatile than anticipated now," it said.

CONTAINERSHIPS: OPTIMISTIC SHORT-TERM PROJECTIONS

The containerships market outlook for 2022 remains positive due to the demand and supply fundamentals. Containership supply is expected to remain limited as many ships are in time-charter agreements, while at the same time, ship deliveries will fluctuate at low levels.

On the other hand, demand for contain-
erships is expected to remain high in 2022, while congestion in global ports will further support the freight market. Containers with a capacity of between 7,500 TEUs and 11,000 TEUs seem to be in a better position as the supply of containerships of this carrying capacity will remain limited. However, their long-term prospects remain uncertain, as the market prefers slightly smaller containerships of 7,000 TEUs or slightly larger ones of 12,000 TEUs. Finally, uncertainty prevails in the containership freight market from 2023 onwards, when the containers ordered in 2021 will start being delivered, putting pressure on the supply front.

Source: BRS Group – Annual Review 2022

THE IMPACT OF BAXITE SEABORNE TRANSPORT ON THE CAPESIZE SEGMENT

Bauxite shipments arriving in China hit new record levels in the first quarter of 2022. They grew at an average annual rate of 12.8% between 2017 and 2021, significantly outpacing all other commodities, which, combined, show an average growth of just 4.3% per year. So far, in 2022, the appetite for bauxite imports has remained high, and the price of aluminium has reached its highest level in 14 years.

The Russia-Ukraine war has caused aluminium prices to surpass USD 3,000/tonne for the first time since 2008, which is expected to lead to an increase in domestic aluminium production.

“In the first quarter of 2022, China’s bauxite imports hit record levels, increasing 15.4% y/y. This is in stark contrast to China’s total bulk imports, which, excluding bauxite, dropped by 10.5% y/y,” says Niels Rasmussen, Chief Shipping Analyst at BIMCO. Compared to the last quarter of 2021, bauxite arrivals increased by 13.6%, with shipments mainly from Guinea contributing 57% of overall volumes, driving the increase as they “Despite being named after Port Kam-sar in Guinea, Kamsarmaxes play only a minimal role in the Guinea-China shipments, while Capesizes are the main beneficiary of China’s demand for the
commodity, carrying a little over 70% of all volumes,” says Rasmussen.

In the long run, the aluminium supply chain may undergo changes once again, as Guinea’s interim government has challenged international companies mining in the country. The military junta has demanded that mining companies present investment plans for alumina refinery plants by May 2022.

“If the government succeeds in establishing large alumina refineries in Guinea, bulk shipping patterns will change. It takes four tonnes of bauxite to produce one tonne of alumina, which would cause a decline in the number of shipments between Guinea and China,” says Rasmussen.

SHIPBUILDING: CHINA IN THE LEAD

China topped the list of leading shipbuilding nations in the first quarter of 2022, securing almost 50% of total orders and ships built. According to the Chinese news agency Xinhua, the total capacity of China’s newly built ships amounted to 9.61 million dwt in the first quarter of 2022, accounting for 46.2% of the world's newly built capacity.

The new orders secured by Chinese shipyards were for ships of up to 9.93 million dwt, which corresponds to 48.6% of the first quarter’s total orders (in terms of capacity).

It is noted that China was also the leading shipbuilding country in 2021, reaching 39.7 million dwt in newbuilds output and 67.07 million dwt in new orders.

UNRELENTING PRESSURE ON THE SUPPLY CHAINS

In the wake of a year of extraordinary challenges in the global supply chains, global trade fundamentals herald continuing pressure for this year as well.

“We expect more problems compared to last year,” said Jacques Vandermeiren, CEO of the Antwerp Port Authority. The prevailing pessimism is due to delays in Chinese ports, expected to cause a domino effect in the US and European ports, which are already facing challenges.

At present, it takes 111 days on average for goods to arrive at a US warehouse from the time they leave the factory in Asia, which is more than double the 2019 average and close to the record 113 days in January 2022. Based on 18 April data, containers remain in Shanghai port for an average of 12.1 days, compared to 4.6 days on 28 March. One of the scenarios under consideration is rethinking supply chains by reducing the distance between the goods’ starting and destination points. However, consumers must be prepared to purchase goods at higher prices. It seems that world trade, whose goods and services amount to $22 trillion, will continue to be plagued by short-term crunches whose impact will be evident through delays and price increases, which will negatively affect the world economy.

ICC IMB URGES CONTINUED CAUTION WHILE WELCOMING THE LULL IN CREW KIDNAPPINGS IN THE GULF OF GUINEA

The ICC International Maritime Bureau’s latest global piracy and armed robbery report recorded 37 incidents in the first three months of 2022 – compared to 38 incidents over the same period last year – with nearly half of them (41%) occurring in Southeast Asian waters, particularly in the Singapore Straits. In comparison, there was a welcome decrease in reported incidents in the Gulf of Guinea region, with seven incidents reported since the start of the year. However, sustained efforts are needed to ensure the continued safety of seafarers in the West African region that remains dangerous, as evidenced by the hijack of a product tanker off the coast of Ivory Coast on 24 January, during which all 17 crew were taken hostage. Reports of armed robberies have also been received within the anchorage waters of Angola and Ghana. This is the first quarter since 2010 where no crew kidnappings have been reported worldwide, although violence against and the threat to crews continue with 23 crew taken hostage and a further four crew threatened.

Thanks to the efforts taken by maritime authorities in the region, there have been no reported crew kidnappings within Gulf of Guinea waters.
in Q1 2022, which is a welcome change compared to 40 crew kidnappings in the same period in 2021. The regional and international navies’ efforts have also reduced reported incidents from 16 in the first quarter of 2021 to seven over the same period in 2022. Nevertheless, the IMB Piracy Reporting Centre urges the Coastal response agencies and independent international navies to continue their efforts to ensure piracy is permanently addressed in these high-risk waters.

Almost 30% of all incidents reported globally since the start of 2022 have been against vessels navigating the Singapore Straits. While these are considered low-level opportunistic crimes and fall under the definition of armed robbery, crews continue to be at risk. In the 11 reported incidents in these waters, two crew members were threatened and one taken hostage for the duration of the incident. It has also been reported that a gun was used to threaten the crew in at least one incident.

**SEAFARER WELLBEING FACING FRESH CHALLENGES**

The latest quarterly Seafarers Happiness Index was recently published by the NGO Mission to Seafarers. The index attempts to quantify seafarers’ satisfaction level with life at sea. Seafarers participate by answering a ten-question survey. The latest findings are causing concern as the overall happiness average was 5.85, down from 6.56 in the fourth quarter of 2021. The latest Seafarers Happiness Index data reveal the lowest satisfaction levels in 8 years, mainly due to seafarers’ frustration with contract extensions. “Toxic relationships” and frequent tensions on board among seafarers of different nationalities have also been identified as significant issues affecting their wellbeing.

The sub-index on the issues of connectivity and contact with families and loved ones at home also fell to 6.39 from 6.92. A significant number of seafarers responded that the lack of Wi-Fi on ships is perhaps the biggest challenge. The issue of salaries often raises different responses. Some seafarers feel they are paid sufficiently and are grateful to be employed. In contrast, others feel their living standards are dropping as living costs rapidly rise across many nations. In the first quarter of 2022, the salary satisfaction sub-index fell to 5.59 from 6.29 in the fourth quarter of 2021. Finally, there was a decrease in the level of seafarer satisfaction with the food on board (6.05 from 6.66), training opportunities (6.3 from 7.21), and interaction with other seafarers (6.82 from 7.42).

**ECB OPENS THE DOOR TO POSSIBLE INTEREST HIKE**

European Central Bank President Christine Lagarde has opened the door to a possible rise in raising interest rates over the summer if inflation remains high. “The ECB’s mission is to maintain price stability,” recently said Christine Lagarde at a meeting with Mayor Peter Chancher in Hamburg.

Inflation in the Euro Zone reached a record level of 7.5% in March year on year and is well above the medium-term target of 2%, which puts pressure on the institution to take steps to de-escalate monetary policy relaxation after many years.

According to Mrs. Lagarde, the “journey” towards monetary normalization should have already begun. After the end of the emergency economic support program in March during the new coronavirus pandemic crisis, another older debt purchase program is also expected to end. The Executive Board will decide on raising interest rates based on the financial data available at its June meeting. “That will be the appropriate time to look at interest rates,” Mrs. Lagarde commented. If the rise in benchmark interest rates - the first since 2011 - has to follow shortly after the end of the debt purchasing program, the ECB’s current timetable allows for the decision to be made at the last monetary policy meeting before its summer break on 21 July. According to the ECB, interest rates will rise “shortly after” the end of the quantitative easing program.

**BIMCO: DECARBONISATION REQUIRES THE COLLECTIVE EFFORTS AND RESPONSIBILITY OF ALL SHIPPING STAKEHOLDERS**

BIMCO’s Board of Directors has approved the organisation’s updated greenhouse gas (GHG) position statement, elaborating on who it believes should pay for carbon pricing and warning that excessive retroactive measures could have unintended negative consequences. Tackling the barriers to transition may be the single most important issue
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facing the shipping industry on its path to decarbonisation. New commercial solutions and shared responsibilities between charterers and shipowners will be required to succeed, states BIMCO. So will collaborative efforts and responsibilities by stakeholders from shipowners, shippers, and charterers to energy suppliers, shipyards, and engine makers.

As the regulatory landscape continues to change, BIMCO supports the Initial Strategy of the International Maritime Organization and its vision and objectives, but believes more ambition is needed. Therefore, BIMCO supports the net zero carbon for shipping by 2050 objective.

An important issue is the allocation of the responsibility for carbon pricing. BIMCO makes it clear that the commercial party responsible for setting the speed and route of a ship should also provide for emissions allowances or credits under a market-based measure (MBM).

“We believe that in the case of a time charterparty, this responsibility should lie with the charterer, and under a voyage charterparty, it should be with the party that commits the ship to the voyage charter,” says David Loosley, BIMCO Secretary General & CEO.

BIMCO remains a persistent advocate for the implementation of a global MBM. Such a measure should feature predictability and stability with regard to the carbon price and thereby be suitable for incorporation in commercial contracts.

“A note of caution is made in the position, pointing out that excessive retroactive technical measures could result in premature retirement of ships when applied to an existing ship,” says Loosley.

“This could be in the form of unwarranted removal of needed capacity from the global supply chains and unnecessary additional emissions from building new ships,” Loosley says.

GLOBAL MARITIME FORUM ANNOUNCES A NEW CHAIR AND THREE NEW MEMBERS OF THE BOARD OF DIRECTORS

International not-for-profit organisation Global Maritime Forum announced its Board of Directors’ new composition following the annual general meeting held on 26 April 2022. Jan Dieleman, President, Ocean Transportation at Cargill, was elected as the new Chair of the Board of Directors, taking over the position from Peter Stokes, former Senior Adviser and Head of Shipping at Lazard, who is retiring. Lynn Loo, Chief Executive Officer of the Global Centre for Maritime Decarbonisation, Semiramis Paliou, Chief Executive Officer of Diana Shipping, and Captain Rajesh Unni, founder and Chief Executive Officer of Synergy Group, were also elected as new members of the Board of Directors of the Global Maritime Forum.

“I am honored to accept the role as Chair of the Global Maritime Forum. Peter has made great strides in helping the forum become an impactful organization that not only drives change but addresses the key challenges we face as an industry today,” said Jan Dieleman, newly announced Chair of the Global Maritime Forum. “Together with my fellow directors and the Global Maritime Forum’s leadership, we will build on this momentum and further strengthen our role as a platform for collaboration, ensuring the industry and its stakeholders work together to discuss challenges and find lasting solutions.”

I am pleased that Lynn, Semiramis, and Unni have accepted to join the Board of Directors. They
ECSA APPOINTS SOTIRIS RAPTIS AS SECRETARY GENERAL

Sotiris Raptis has been appointed by the General Assembly to lead the European Community Shipowners’ Associations as its new Secretary General. Sotiris Raptis has extensive EU political and policy experience, having worked for different organisations in Brussels over the last 14 years. After joining ECSA as Director of Environment and Safety in 2020, he took on the role of Acting Secretary General for the previous seven months.

“We warmly welcome Sotiris Raptis in his new role as Secretary General and look forward to continuous cooperation in the future. The European shipping industry is facing unprecedented challenges as we work towards our shared decarbonisation goal. Achieving strong and effective regulation at the EU level is key. At the same time, the pandemic and the Ukrainian war have shown us the need to adapt and become a more resilient and competitive industry. Sotiris combines great expertise, strong ambition, and a committed team to navigate European shipping through these challenges,” said ECSA’s President, Philippos Philis.

“I look forward to continuing my work with the ECSA team, our members, the industry, and civil society organisations. The climate crisis, the energy transition, and the sector’s competitiveness are major challenges. A number of new EU climate policies will be introduced in the next two years, marking a make-or-break moment for the sector. It is essential that the EU institutions consider the sector’s proposals, ambitions, and concerns. Being an open, constructive, and evidence-based partner is a top priority for ECSA”, added ECSA’s new Secretary General.

Before joining ECSA in 2020, Sotiris Raptis held several positions in the European Parliament and different stakeholder organisations, such as the European Sea Ports Organisation and the NGO Transport & Environment. During his time in T&E, he was involved in several campaigns, such as the one to include shipping into the ETS. Sotiris Raptis is a qualified lawyer with degrees from the University of Thessaloniki, the University of Athens, and King’s College London. In 2008, he was awarded the European Citizen’s Prize of the European Parliament as a member of the “G700” blog for promoting intergenerational justice.

500 SEAFARERS REMAIN TRAPPED ON VESSELS STUCK IN UKRAINIAN PORTS

Just under 500 seafarers remain sheltered awaiting evacuation onboard 109 ships at Ukrainian ports in the Black Sea and the Sea of Azov, down from 2,000 some weeks ago.

Three quarters of the seafarers trapped in Ukrainian ports have now been evacuated from their stranded vessels, according to new data gathered by the International Chamber of Shipping, collated in association with the IMO.

The IMO recently adopted a resolution on actions to facilitate the urgent evacuation of seafarers, while U.N. Secretary General Antonio Guterres recently called for an escape route from the Mariupol ‘apocalypse’.

ICS is urging the preservation of humanitarian corridors, until all remaining seafarers have been safely evacuated. The remaining 500 seafarers account for skeleton crews who remained on board to allow their fellow crew mates to be evacuated. 1,500 seafarers have been safely evacuated from stranded vessels via humanitarian corridors on land and at sea. These corridors comprised of evacuation flights and buses from ports, organised by the maritime labour supply states of those affected. Some of the 1,500 are awaiting their further transfer from shore locations in Ukraine, and many have been fully repatriated home.

The International Labour Organization (ILO), the IMO, UNHCR and humanitarian organisations have coordinated deliveries of food, water, and medicines to remaining crew. While some supplies have reached the intended recipients, delivering aid continues to be extremely difficult, particularly in high-risk areas.
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The Problems with EU-ETS

Effectiveness is one thing; efficiency is another. By “efficiency,” the cost to society and the administrative burden are included in the results. Could another market-based measure deliver the same or higher emissions reductions at less cost and burden? Well, that question has been answered beyond dispute by numerous studies. A tax is both more effective and more efficient than an ETS. How much more? A landmark study by the Congressional Budget Office (CBO) of the USA, which compared the two schemes, concluded that the tax on emissions is 5 times more efficient than an ETS while delivering double the emissions reductions! (1). Other studies conclude that the tax is 8 to 16 times more efficient (2)(3). It is no wonder then that even green NGOs, such as Friends of the Earth, have come out totally against ETS (considering it at best a numbers game and at worst dangerous to the environment due to off-setting) and in favor of a tax on carbon (4)(5). Oh, did I forget to mention that both the IMF and the World Bank state, “there is a consensus in the literature that a fuel levy imposed by means of a global agreement would be the most effective and efficient way forward for carbon pricing in the maritime sector” (6)? Furthermore, in another joint statement, they state: “On balance, a tax-based approach to carbon pricing in International Aviation and Shipping would likely be the most appealing in principle” (7). Mind you; this is as close as the IMF and the World Bank could express their disagreement to the wishes of the world’s financial institutions (who favor ETS for obvious reasons).

If ETS is an inefficient and burdensome system for land industries, one can imagine how much more so it would be for shipping. Due to price volatility, any ETS takes away the “cost-certainty” required for long-term investments. A shipowner cannot decide if he should invest in retrofitting his ship with costly energy-saving devices if the CO2 allowance price is one year 100 euro and the following year 10 euro. But he can very well proceed with the investment if he knows that no matter what, x dollars per ton will be applied to bunkers year-in, year-out. Small and medium-sized companies will be stretched to comply with the huge additional administrative burden of the measure.

When the matter was first discussed at IMO 10 years ago, most North European countries were in favor of the ETS. When I asked a friend in the UK delegation, who I respected for being knowledgeable on how shipping works, “Why do you support ETS? Can’t you see how much simpler a tax on bunkers is?” his reply was, “We have done our research - ETS on ships will bring 10,000 jobs to City overnight”. The Americans had a different concern in opposing a tax. They thought that a worldwide tax system would detract from their country’s sovereignty. I made them aware of their own CBO study (1), which stated the exact opposite. According to their study, an agreed flat tax, either worldwide or with...
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neighboring countries, is not against sovereignty, but ETS is.

EU-ETS for shipping will create many additional problems for shipping companies, shipping trade, and European consumers. With EU-ETS, the freight cost of goods to and from the EU increases by about 20% or more, a cost which will undoubtedly be borne, in the end, by the European consumer. To start with, trading hubs in countries neighboring the EU are a real possibility where, instead of discharging cargo directly to the EU, one can discharge it, say, to Turkey, for further transport by rail or transshipment by other, perhaps smaller, ships. Policing such schemes seems very hard (to put it mildly) while, of course, they increase emissions instead of reducing them.

As the draft regulation stands now, and this is not expected to change, the shipping Managing Company is the responsible entity for surrendering the emission allowances. The revised draft has added wording about “the charterer being responsible,” but the regulated party remains the ship manager (ISM DoC-holder). Instead of being “ship-specific” following the existing EU MRV data, the regulation is “manager-specific.” This will affect the big commercial ship managers in a profound way. That means that if one ship in the managed fleet “defaults,” all ships in the fleet will default (unless the manager covers the loss from his own pocket.)

Shipping organizations lobbied the EU to include charterers’ responsibility in the revised draft regulation. The regulators did so by including a requirement that a binding clause should be inserted in the contracts (charterparties) to hold the charterer (fuel purchaser) responsible for covering the allowances compliance cost (but the shipping manager must still surrender the allowances). Some shipping lawyers argue that this opens the door henceforth for the Regulators to involve themselves in shipping’s private commercial contracts. Furthermore, Article 3gda states: “if the fuel purchaser is other than the shipping company, pursuant to a contractual agreement, Member States shall ensure that that entity is responsible under the contractual arrangement for covering the costs arising from the implementation of this Directive." In other words, EU Governments will be required to dive into shipping charterparties to ensure that the Regulation is followed. Be careful what you wish for.

The EU really had only two choices as far as which could be the regulated entity: the ship or the ship manager. Regulating the cargo or the charterer is practically impossible. There is no charterers’ database, and an entity can be a charterer for one voyage/shipment only and disappear as easily as he appeared. Regulating the manager jeopardizes his whole fleet, as stated above. A ship, however, has a unique IMO number and all its moves and consumptions are already recorded and reported officially to Thetis EU MRV. The ship (registered owner) should logically be the regulated entity. The charterer can be made responsible for passing the emissions cost to the owner by private contractual clauses without involving the regulators and increasing their appetite for more involvement in our charterparties in the future. It is said that small shipping companies may be at a disadvantage when it comes to getting big charterers to agree to such private contract clauses; however, relevant shipping organizations (such as Bimco) are already working on such universally-accepted clauses, which will become standard going forward, as has been done many times before when new issues arise.

The EU-ETS Regulation is not finalized yet. We will wait and see how it may be improved to make it a bit more reasonable and workable for shipping.

4 "Clearing the air – Moving on from Carbon Trading to Real Climate Solutions," Friends of the Earth, November 2010.
5 "A Dangerous Obsession – The Evidence Against Carbon Trading and for Real Solutions to Avoid a Climate Crunch," Friends of the Earth, November 2009.
7 "Market-Based instruments for International Aviation and Shipping as a source of Climate Finance," Background paper for the Report to G20 on Mobilizing Sources of Climate Finance, IMF and World Bank, November 2011.
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**BACKGROUND AND REQUIREMENTS**

**Ropes that are reliable in extreme conditions**

Mooring ropes and towing lines for large cargo ships and LNG tankers need a highly reliable performance profile: they have to withstand enormous tensile loads, heat, friction and permanent exposure to aggressive salt water. After all, in extreme situations the safety of the entire ship may depend on them. At the same time, they are expected to be light and easy to handle and have a long service life. The experts at Katradis Marine Ropes Industry S.A. know exactly what is important: Based in Piraeus, Greece, this company is one of the leading manufacturers of marine ropes. For its new high-performance LCP-Siri S12 COVERED ropes, the company relies on a braided core made from Kuraray’s VECTRAN™ liquid crystal polymer fibers.

**THE SOLUTION**

**Ultra-high-strength fibers made of liquid crystal polymers**

VECTRAN™ is a high-tech multifilament yarn spun from liquid crystal polymers (LCP). Thanks to their unique structure, these high-performance fibers have very high strength. They are also resistant to high temperatures, including extreme frictional heat, for example in difficult towing maneuvers, and are suitable for use in both hot and cold climates because they have ideal dimensional stability. In relation to their weight, VECTRAN™ fibers are five times stronger than steel. They also have another benefit compared with aramid fibers: extremely low moisture absorption. Ropes made from these fibers retain their shape, volume and low weight, even after prolonged use in wet conditions. Thanks to their excellent creep and break resistance and high wear resistance, they can be used to manufacture extremely strong and durable ropes.

**THE CONCEPT**

**Safer marine ropes with twice the durability**

Due to the excellent properties of VECTRAN™ fibers, Katradis chose a 12-strand core of these LCP fibers braided with a highly abrasion-resistant polyester sheath for its new high-performance rope. A key advantage for the structure of the rope is the extremely high wear resistance of VECTRAN™ fibers. In combination with the specially developed NiKaThane coating from Katradis, the ropes can withstand considerably more load cycles in towing maneuvers than established HMPE and aramid ropes. Moreover, they are just as strong and similarly light. In field tests, LCP-Siri S12 COVERED...
showed hardly any wear even after three years of use and more than 2,000 hours of operation as a mooring rope on an LNG tanker. In the subsequent breaking tests, the rope had an excellent breaking strength of 97.85 percent compared with the load capacity directly after manufacture. And there is another benefit: The extremely robust structure and good dimensional stability of VECTRAN™ fibers reduce the snap-back force if a rope does break – and that improves safety.

CUSTOMER BENEFITS
Double service life, simple handling, less personnel required

“Our new LCP-Siri S12 COVERED rope can be used on cargo ships and tankers for up to twice as long as competing ropes made of HMPE, aramid or steel. The enormous strength of VECTRAN™ fibers, combined with our NikaThane coating, plays a decisive role in that. And the special finish that Kuraray applies to every VECTRAN™ fiber ensures that bonding of the coating is particularly durable and reliable. Another key advantage of our new type of rope compared with steel ropes is that they are not subject to corrosion” says Akis Zygouris, Technical Sales Manager at Katradis. In addition, Kuraray’s VECTRAN™ LCP fibers give this new type of rope excellent flexibility and dimensional stability, making the ropes easier to handle with less personnel, which speeds up mooring. Moreover, the ropes are very suitable for use with winches. Akis Zygouris: “Kuraray’s experts provided us with extensive advice and support in the development of our new rope. With our joint expertise, we have already been able to convince numerous shipbuilders and shipping companies of the advantages of LCP-Siri S12 COVERED.

High-performance fibers for lasting strength: Katradis’ new LCP-Siri S12 COVERED rope with a 12-strand core made of VECTRAN™ liquid crystal polymer fibers from Kuraray has enormous strength and flexibility so it can be used on cargo ships and tankers for up to twice as long as competing HMPE and aramid ropes.
CLASSIFICATION SOCIETIES

THE WAY
In recent years, the shipping industry has been governed by environmental regulations to reduce its environmental footprint, and classification societies are called upon to play an ever-increasing role in this context. In the following pages, representatives of top classification societies share their thoughts on the most critical challenges and opportunities they have faced or will be called to face in the coming years. The Covid-19 pandemic, decarbonization, and digitization are some of the burning issues discussed below.
In 1870 the great visionary Jules Verne, born in 1828, the same year Bureau Veritas was established, predicted in his celebrated novel “The Mysterious Island” that the coal of the future would be water.

IF NASA ACHIEVED THE TAMING OF H₂, WHY NOT UTILIZE IT AS A MARINE FUEL?

Jules Verne’s prophecy became a reality one hundred years later when, liquid hydrogen (H₂), reacting with liquid oxygen, became the propellant of choice for space exploration in the Apollo program and later in the Space Shuttle. The oxidation reaction of H₂ with oxygen to form water is exothermic, releasing 242 kJ/mol. If NASA achieved the taming of H₂, why not utilize it as a marine fuel?

The marinization of H₂ is not an easy feat, but it is an attractive proposition due to the many advantages it brings to the table. It has the highest gravimetric energy density of all fuels. In contrast, its volumetric density is low, necessitating larger storage spaces. An additional difficulty is that its boiling point is close to absolute zero at -253 oC at atmospheric pressure. The highly cryogenic nature of H₂ mandates the utilization of costly storage tanks with double walls and vacuum insulation, which must be continuously monitored for current potential vacuum degradation.

The designer has various solutions to the H₂ storage problem at his disposal. The obvious one is transporting it in a gaseous mode under high pressure (200 to 700 atmospheres). This solution, though, is more appropriate for automotive application. A better solution is to carry the H₂ as a chemically bound element. The most popular H₂ carrier is ammonia, which carries more H₂ than H₂ itself. Ammonia is also easier to transport since it has a boiling point of -33 oC. The motto “no free lunches” also applies here since we need to spend energy on the composition of ammonia and similarly on cracking it into nitrogen and H₂.

Another option is to utilize what is today the most popular method of H₂ production, steam reforming. Steam reacts with fossil fuels, primarily natural gas, forming carbon dioxide and H₂. The CO₂ is subsequently captured and H₂ blends with the natural gas, enhancing combustion. More exotic solutions use hydrides to carry it as a solid since hydrides can be coerced to absorb or release H₂. Even more exotic but feasible is utilizing Metal-Organic Frameworks (MOFs). MOFs are crystalline compounds consisting of rigid organic molecules held together and organized by metal ions or clusters. Special interest in these materials arises from the fact that many of them are highly porous with a high surface area and can be used to store small molecules, for example, H₂ or CO₂.

Another production method is electrolysis, which uses renewable energy sources to provide the high amounts of electricity required. Grid electricity is very expensive, and it makes no sense to use it since it is associated with high GHG emissions. Using renewable energy sources like wind turbines, solar panels, hydropower, and nuclear energy to produce this electric energy makes electrolysis a carbon-free process with a high financial penalty. Such Green H₂ may cost as much as 7 to 8 USD per kg H₂. There is hope that the increase in production scale will reduce this cost by 30% by 2030. 50 kWh are needed to produce 1 kg of H₂ or the electricity consumed by 28 (50/1.8=28) air conditioning
units of 12,000 BTU operating for 1 hour. 9 m3 H2O or 9 tons water are required to produce 1-ton H2. Electrolysis also requires an electrolyzer and water. Even better, optimized electrolysis, for example, HTE (High-Temperature Electrolysis), will dramatically increase the yield and efficiency of the process. H2 can be burned in dual-fuel Internal Combustion Engines (ICE). Pilot fuel is needed to promote ignition, given that H2 has a high autoignition temperature. So technically, H2 is not a 100% carbon-free fuel. In a blend of diesel or gasoline with H2, the higher the percentage of H2, the lower the engine’s efficiency. H2 can also be combusted as a mono-fuel in a spark-ignition engine. H2 is used in a zero-carbon mode in fuel cells. The noise and vibration-free fuel cells operate the reverse way compared to electrolysis. In an electrolytic cell, electricity is supplied. In a fuel cell, electricity is produced. In the electrolytic cell, hydrogen and oxygen are produced from the disassociation of water. In the fuel cell, hydrogen is fed in the anode and oxygen in the cathode. H2 is split into two protons and two electrons. The electrons flow towards the cathode, producing electricity, whereas the protons choose the faster way through the permeable membrane. The split of H2 is achieved with the help of the catalysts, usually platinum. H2 used in the fuel cell must be very pure to avoid degradation of the catalysts. By today’s standards, the life of a catalyst is about 25,000 hours. Oxygen and H2 unite in the cathode to produce water and heat since this is an exothermic reaction. In a fuel cell, chemical energy is converted to electrical energy. In a diesel generator, chemical energy is converted to mechanical/kinetic energy and finally into electrical energy, so diesel generators lead to more losses than fuel cells. Unfortunately, although faring better than batteries, fuel cells are costlier and have a high carbon footprint. A large-scale prototype is still missing as the existing prototype is mainly for 100 kW power at the most.

H2 is the link for energy supply, connecting supply with demand. Countries with water resources and high availability of renewable energy will become energy exporters in a future hydrogen economy. H2 is the mother of all fuels or the “Swiss army knife” to generate all synthetic/e-fuels. It is the primary feedstock for synthesizing methane, methanol, and ammonia. Synthetic fuels generated renewably and without environmental degradation promise to close the “energy gap” between the global supply and demand, mitigate the release of GHG in the atmosphere, alleviate air pollution, and improve the economies of all nations. H2 is the central pillar of the energy transformation required to limit global warming by distributing carbon-free energy across sectors and regions. It allows international energy distribution, linking renewable-abundant regions with those requiring energy imports. H2 can unlock the potential of renewables from remote locations.

The stumbling blocks in the hydrogenation of shipping are the lack of infrastructure and bunkering, lack of complete regulations, and lack of implementation of H2 propulsion in larger vessels. At present and until the maturity of the nascent H2 economy, propulsion must be hybrid, based on the risk assessment of the H2 fuel supply system, H2 storage tank and piping, and engine room. Safety and infrastructure are the biggest challenges facing the transportation and bunkering of the new fuels. H2 is versatile. Technologies already available enable H2 to produce, store, move and use energy in different ways. H2 can also help with a variable output from renewables, whose availability is not always matched with demand. Only by producing H2 from renewable energy sources using an appropriate legislative framework will we be able to eliminate the carbon footprint of H2 and allow it to accelerate the energy transition process. We must also remember the prominent position of Greek shipping, which will be called to carry H2 to more mature and emerging markets in the Far East.
After more than two years, there seems to be light at the end of the pandemic tunnel. What conclusions can be drawn from the pandemic regarding the shipping industry’s crisis management readiness?

The shipping industry was not alone in being unprepared for the pandemic, but its response illustrates the resilience and capability of shipowners around the world. Of course, this could not have been achieved without the commitment of the world’s seafarers, who demonstrated that shipping could adapt and survive. The pressure on supply chains that followed the pandemic showed that the industry would need to adapt to build further resilience into its processes and plan for potential future disruption.

Do you think the pandemic has accelerated digitalization within the shipping industry? If so, what would you say is the most critical achievement in recent years in this direction?

The pandemic undoubtedly accelerated the adoption of digital technology. It demonstrated the potential of connectivity to sustain business at a distance and bring new tools into play for many work areas. ABS reinforced its provision of digital class services during this time, including remote surveys for selected clients on selected vessels. We also used this opportunity to develop further our integrated service platform MyDigitalFleet to support shipowners with voyage optimization and performance management.

The number of companies considering alternative marine fuel options and investing in some of them has been increasing in recent years. Which of these fuels do you think is the most promising and has the potential for broader adoption by the industry?

Future fuels will lead shipping through a series of transitions towards its ultimate decarbonization. Both LNG and Methanol are available now and can generate short-term carbon emission reductions. Next, we expect Ammonia fueled ships to be available at scale, with OEMs and owners piloting and bringing the fuel to commercial availability in five to ten years. In the much longer term, Hydrogen holds potential but bringing it to market will require regulation, setting safety standards, and securing the supplies needed at scale. To help owners understand these choices, ABS has pub-
lished three Low Carbon Outlooks, the latest of which includes a detailed life-cycle, or value-chain, analysis of the greenhouse gas footprint of the leading alternative marine fuels. This first-of-its-kind analysis is at the heart of the third edition of the ABS Low Carbon Shipping Outlook series, in which ABS also reports on the shipping industry’s progress in reducing emissions and presents possible plans for future ships, including future technical and economic data.

How can classification societies accelerate the industry’s decarbonization efforts, and what initiatives have you taken in this direction?

ABS supports the industry’s efforts towards decarbonization through a program of Joint Industry Projects and Approvals in Principle to help develop innovative new fuel and hybrid propulsion solutions for shipyards, shipowners, and other stakeholders. We also offer a suite of targeted services to provide practical support for lowering carbon emissions. Most recently, ABS has launched the Greenhouse Gas Inventory and Carbon Accounting which enables organizations to quantify their GHG emissions to understand their climate impact and set goals to limit emissions as well as define their footprint and contributions in Scope 1, 2, and 3 accounting categories. ABS has previously launched sustainability reporting and assurance services to help clients demonstrate their progress towards sustainable operations. This centers on a straightforward three-step process to simplify sustainability reporting, culminating in a detailed and authoritative sustainability report. ABS sustainability specialists are also able to provide sustainability assurance, independently validating an organization’s environmental, social, and governmental reporting.

Finally, ABS is helping shipowners access ‘green finance’ - provided to borrowers who can demonstrate their environmental credentials - with a program assessing the contribution of environmental technologies to reducing carbon emissions and intensity. The demand for greater energy efficiency and the drive towards decarbonization will increasingly require shipowners to obtain finance that partly reflects those assets’ environmental performance.

Acting as a trusted ‘second party opinion’ provider to the finance providers, ABS supports the industry’s transition to a net-zero carbon environment while also helping operators fulfill their Environment, Sustainability, and Governance (ESG) strategies.

What are the decarbonization prospects of the Greek short-sea shipping/coastal shipping sector? Are there specific initiatives toward the energy transition of this sector, which is an integral part of Greek shipping?

As international and domestic operators, Greek shipowners face common global challenges; the need to understand the most suitable fuels for their fleets and whether a newbuilding or conversion is the most appropriate choice. While that process continues, owners need to move their operations towards a much higher fuel efficiency level and better voyage performance. As IMO regulations come into force in 2023, vessel operators will progressively need to improve fuel efficiency and reduce emissions. For short sea and smaller vessel operators, the options of hybrid electric power can also be considered as these technologies mature and develop, providing a further option for operators to reduce emissions and future proof their fleets.
After more than two years, there seems to be light at the end of the pandemic tunnel. What conclusions can be drawn from the pandemic regarding the shipping industry's crisis management readiness?

The maritime industry had started undergoing a stress test before the COVID-19 pandemic, when tense trade relations among several nations (e.g., between global economic superpowers such as China and the USA and in connection with the UK's withdrawal from the EU) were already threatening to disrupt maritime operations, logistics and supply chains.

No sooner had COVID-19 been characterised as a global pandemic in 2020 than international trade collapsed due to lockdowns, travel restrictions, unemployment, and other side effects, which resulted in a drop in maritime trade across the globe.

To support the maritime industry, the IMO and other maritime organisations joined their efforts to propose actions on critical issues such as onboard safety, seafarer contracts, repatriations, and the supply of necessary provisions to ensure smooth vessel operations.

A conclusion drawn from the COVID-19 pandemic is that it can be seen as a catalyst for the digitalisation of the modern maritime industry. Crucial for the success of the digital transformation is the alignment between both the business and digital strategies and the willingness of the players involved (port administrations, shipowners, shippers, service providers) to cooperate.

Do you think the pandemic has accelerated digitalization within the shipping industry? If so, what would you say is the most critical achievement in recent years in this direction?

It is expected that the maritime industry's future will become more digital, especially after the pandemic, as new, more digital ways of working have been identified. Ships have been transformed into sophisticated sensor hubs and data generators, producing and transmitting information from anywhere, sometimes even in real time. Connectivity has also been reinforced thanks to innovations in satellite communications, and therefore, increased amounts of data can be transferred at the lowest cost possible. Cloud-based technologies, such as big data platforms and

SHIPS HAVE BEEN TRANSFORMED INTO SOPHISTICATED SENSOR HUBS

by Ioannis Chiotopoulos, Senior Vice President & Regional Manager S.E Europe, Middle East and Africa, DNV

NEW ERA FOR SHIPPING
Digital twin technologies, are currently gaining ground, having a significant effect on how vessels and their machinery are designed and built and how the industry handles information.

The number of companies considering alternative marine fuel options and investing in some of them has been increasing in recent years. Which of these fuels do you think is the most promising and has the potential for broader adoption by the industry?

Choosing the right fuel today for operations tomorrow is a daunting task that all owners must face. DNV’s annual report on shipping’s energy transition—“Maritime Forecast to 2050”—has identified fuel choice as the most critical decision facing shipowners and operators today. Maintaining flexibility in the choice of fuel, especially when the bunkering environment is in flux, can minimize the risk of stranded assets and maintain a vessel’s lifetime competitiveness.

The maritime energy transition is already gaining momentum, with around 12% of newbuilds currently ordered with alternative fuel systems, double 2019’s 6%. However, less than 1% of ships currently in operation use alternative fuels, with the vast majority plying short-sea routes.

With between 1,000 and 2,000 ships expected to be ordered annually through 2030, there’s a real need for informed decisions that consider a diverse array of factors, from cost to fuel storage and propulsion to flexibility in design, strategic approach, and fuel ready solutions. And, of course, all of this is underpinned by the need for safety.

How can classification societies accelerate the industry’s decarbonization efforts, and what initiatives have you taken in this direction?

The role of a classification society is crucial as a motivator and facilitator for bringing together all the change agents involved in order to join forces. Let me share with you some tangible examples from recent DNV initiatives.

At the beginning of April, the Norwegian Ministry of Climate and the Environment awarded DNV and its partners a contract to develop a roadmap for the introduction of sustainable zero-carbon fuels across the Nordic region. The “Nordic Roadmap” aims to accelerate the transition to zero-carbon fuels by reducing the key barriers to their uptake and creating a platform for cooperation across the region.

MAN Energy Solutions and DNV recently signed a Memorandum of Understanding (MoU) to work together within the fields of decarbonization, the hydrogen value-chain, and digitalisation to shape solutions that bring value to both our companies and, most importantly, to our customers.

Also, DNV has released the latest updates to its rules for ship classification, with a raft of new class

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**ENERGY SAVER**

The easily installed *Becker Mewis Duct®*, for vessels with a high block coefficient, reduces SO\(_x\), NO\(_x\), and CO\(_2\) emissions. The device is placed in front of the propeller, has no moving parts, reduces noise, and saves energy by 6% on average.

Right: 158,000 DWT Tanker Milos
Owner: Kyklades Maritime
*Becker Mewis Duct®*
notations designed to enable the maritime industry to tackle the decarbonization challenge. The new updates include “Fuel Ready,” a class notation offering shipowners the option to prepare for later conversion to multiple alternative fuel options, and “Gas fueled ammonia,” for ammonia-fueled vessels to stay ahead of shipping’s ever-tightening carbon reduction requirements. Both notations provide maximum flexibility to tackle shipping’s carbon curve.

In July 2021, Foundation Det Norske Veritas teamed up with the Maritime and Port Authority of Singapore (MPA) to launch Singapore’s Global Centre for Maritime Decarbonisation (GCMD). Foundation Det Norske Veritas is one of the six founding members, alongside BW Group, Eastern Pacific Shipping, Ocean Network Express, Sembcorp Marine Ltd, and BHP. The centre’s mission is to catalyse and facilitate decarbonization in the maritime sector and will be supported by contributions from the founding members totaling $120 million. Recently, DNV has been selected to lead an ammonia bunkering safety study by GCMD, which aims to define a robust set of safety guidelines and operational envelopes that will establish the basis of a regulatory sandbox for ammonia bunkering trials at two local sites.

Last summer, DNV joined with leading Flag States and Classification Societies to launch the Maritime Technologies Forum (MTF), which recently unveiled a framework designed to empower decision-makers in shipping to holistically assess and compare decarbonization technologies and low to zero-emission energy carriers. The framework takes into consideration wider sustainability aspects, also recognizing that solving the issue of decarbonization should not lead to unacceptable impacts on other areas such as safety, security, and economic feasibility.

Last but not least, the Green Shipping Programme is a DNV-led public-private sector partnership established in 2015 to implement the Norwegian government’s policy ambitions. The project is intended to achieve cost-effective and environmentally friendly shipping.

What are the decarbonization prospects of the Greek short-sea shipping/coastal shipping sector? Are there specific initiatives toward the energy transition of this sector, which is an integral part of Greek shipping?

Short-sea shipping in Greece needs a metamorphosis – from the old technology and polluting vessels used today to new, modern, no-emission technology vessels, which hopefully can also be built here in Greece. To do that, we don’t have to re-invent the wheel. We can use the excellent example of a similar project carried out in Norway, where the Green Shipping Programme has been implemented. At this moment, they have more than 200 short-sea vessels operating on batteries only, and more than 300 vessels are also expected to join the Programme. Our Norwegian counterparts have all the necessary know-how, as DNV in Oslo was the project manager of this initiative. Here in Greece, we are trying to increase awareness and engage owners, decision-makers, and shipyards. Hopefully, we will manage to replicate this project launched in Norway, meaning small non-polluting vessels built here in Greece – let’s keep our fingers crossed and hope we will succeed!
DANAOS AND THE ENVIRONMENT
...A LOVE AFFAIR

World-Class Shipping, Leading-Edge Expertise
After more than two years, there seems to be light at the end of the pandemic tunnel. What conclusions can be drawn from the pandemic regarding the shipping industry's crisis management readiness?

All industries had a steep learning curve to deal with during the pandemic. The shipping sector’s increased digitalisation program undoubtedly helped support the industry and shows the need for continued efforts in this area to ensure resilience for the future. Digitalisation offers substantial benefits in terms of driving efficiency through shipping operations, but the pandemic has also shown its value in reducing reliance on physical presence. Remote inspection services are an excellent example of how ongoing innovation in shipping promotes crisis management readiness. At the same time, the pandemic has shown that these sorts of tools and the increasing use of advanced technology in the industry can only help ensure greater resilience.

Do you think the pandemic has accelerated digitalization within the shipping industry? If so, what would you say is the most critical achievement in recent years in this direction?

Digitalisation was already a megatrend within the industry, but the pandemic has definitely shown the immense value digital technologies offer and, as such, accelerated this process. It is difficult to say what the greatest achievement in this area is as there are so many new tools and innovations supporting shipping - not only in its resilience but also in terms of driving efficiency, cost reduction, and decarbonisation. If we had to pick one tool, it would be the Fleet Monitoring Services. The uptake of this digitalisation platform continues to accelerate, and the benefits it offers in terms of understanding performance and operations and delivering continuous improvements can only grow as more and more vessels are added.

The number of companies considering alternative marine fuel options and investing in some of them has been increasing in recent years. Which of these fuels do you think is the most promising and has the potential for broader adoption by the industry?

There is no single ‘silver bullet’ for decarbonisation, and we would be wrong to only work in one area. The process will be a journey, and it is vital that we approach it from every angle - including operational processes as...
well as fuels and technology. It requires practical and economical solutions and the ability for us to reduce emissions today and eliminate them in the future. To this end, Approval in Principle of the dual-fuel, hydrogen-powered MR tanker engine configuration is particularly exciting. Generating hydrogen onboard the vessel removes the obstacles of infrastructure and availability of hydrogen as a fuel. The design provides an engine configuration that enables the use of hydrogen as a fuel today and exceeds IMO 2050 targets for a 70% reduction of carbon emissions.

RINA is actively working on numerous projects to investigate the use of alternative fuels and technologies for decarbonisation. These include testing biofuel blends derived from renewable feedstock for LR1 product tankers, a methanol chemical bunkering tanker, a yacht fitted with a hydrogen fuel cell, the effectiveness of air lubrication systems (ALS), and the use of ammonia as a fuel in the ENGIMMONIA project, which aims to demonstrate the use of this fuel on an oil tanker, container vessel, and ferry.

How can classification societies accelerate the industry's decarbonization efforts, and what initiatives have you taken in this direction?

Classification societies need to support decarbonisation with additional notations, such as RINA’s “Sustainable Ships,” and design approvals for future fuels. We are working in many areas for decarbonisation, including Approval in Principle of dual-fuel Methanol, dual-fuel Ammonia, and many other environmentally friendly ship designs based on hybrid or fully electric propulsion. RINA has also established four international Decarbonisation Committees to promote the discussion and sharing of practical, sustainable solutions for the industry, as we believe it is crucial for all stakeholders to work together if we are to achieve decarbonisation targets. These committees, based in Greece, Northern Europe, Italy, and Asia, are formed of representatives from more than 150 companies worldwide, including shipowners, technical managers, shipyards, designers, fuel suppliers, and charterers. Discussion areas include identifying alternative fuels, increased fleet efficiency, and operational measures that optimise fuel usage. We have already identified practical technology and fuels that can be used today to meet the ambitious IMO 2050 targets.

What are the decarbonization prospects of the Greek short-sea shipping/coastal shipping sector? Are there specific initiatives toward the energy transition of this sector, which is an integral part of Greek shipping?

Of course, decarbonisation is also an issue for short-sea and coastal shipping, and projects are ongoing to support alternative fuels and engine configurations in this industry sector. One example is trials for hydrogen use in a small vessel with a fuel cell; we are investigating the possibilities for this fuel in small cruise vessels and possibly Ro-Ro or other ships, where ports with appropriate bunkering capability are available. Another project studied Silverstream air lubrication’s effects on reducing hydrodynamic resistance, and hence emissions, of Ro-Ro vessels.
After more than two years, there seems to be light at the end of the pandemic tunnel. What conclusions can be drawn from the pandemic regarding the shipping industry’s crisis management readiness?

It is widely admitted that the shipping industry demonstrated remarkable resilience during the pandemic, much of which is attributed to the commitment and effort of our seafarers. They have struggled to keep the global economy going in times of unprecedented turmoil. Evidently, the crisis unveiled some of the gaps in our planning and readiness we had not seen coming. In the future, we will need to analyze these lessons in detail and come up with actions and provisions to address relevant risks. For example, from a class point of view, we have inherited and accelerated the application of remote surveys. We now keep enhancing our procedures over the remote survey regime. Above all, however, it is felt that we owe our seafarers tangible action and a greater focus on their physical and mental health in any similar circumstances.

In what way do you think that the pandemic has impacted global trades?

To unveil the exact circumstances we are going through today, we need to look a little deeper into the past. It is true that as far as the energy transition is concerned, we are late, which means our effort needs to be intensified. This is why as LR, we have increased our focus on the transition. However, in recent years, the need for transition intensity has probably led us in questionable directions. Energy growth and security were not high on our agenda. The pandemic camouflaged the lack of investment in our energy sector in a dilemma that saw hydrocarbons as outdated and clean energy as not ready for investment. Obviously, the result is the energy crunch we are going through today, with the lights being kept on only thanks to coal. Indeed 2021 was a record year for coal trades, making us wonder whether this is the right path to decarbonization. Sometimes the shortest path is not a straight line, and this crisis has shown us that the transition without energy security and vice versa is impossible. With a geopolitical crisis taking Russia, one of the global key energy players, out of the picture, our maritime supply chains become even more vital to the global economy.
How could we return to equilibrium given the current energy and geopolitics situation?

Evidently, we will need to ship greater volumes of energy commodities on longer routes and place greater effort in having more ships available and in operation, like the LNG sector, for example. This will allow the energy markets to come to equilibrium, but where does this leave us with the transition? Perhaps it is more apparent than ever that we need to think of the transition as an integration process. We need to remove but also negate the footprint of our current economy. This requires closing the carbon cycle, and shipping could contribute to this goal with a brand-new maritime supply chain for carbon dioxide.

The number of companies considering alternative marine fuel options and investing in some of them has been increasing in recent years. Which of these fuels do you think is the most promising and has the potential for broader adoption by the industry?

LNG seems like the obvious choice today for a cleaner fuel with some prospects, but we cannot, and we should not put all our eggs into any basket. Today we sense that the end goal will be net-zero on a well-to-wake basis. Shipping will need a pluralism of options; developments are fragmented with technical, economic, safety, environmental, societal, and other factors shaping the result. We need to intensify our effort and accelerate the maturing of zero-carbon options like ammonia and hydrogen and methanol and carbon capture solutions. Under the climate emergency, there is no room for excluding any prospect, even the atomic one. That is why in LR, we apply an assessment model comprising three key priorities: technology, investment, and societal readiness. These factors and an option’s overall value and prospect distill into these three key pillars. There is no obvious winner, and there may never be - all candidate fuels need to prove their merits beyond doubt. For example, what we see as a reasonable choice today may become obsolete tomorrow. In the case of LNG as fuel and the uptake we have witnessed lately, we need to keep in mind that LNG needs to tangibly address its risks, methane emissions, availability of net-zero variants, price, regulatory developments, and technical adaptability to cleaner fuels or carbon capture.

How can classification societies accelerate the industry’s decarbonization efforts, and what initiatives have you taken in this direction?

Classification societies are at the forefront of this effort. Individually or through IACS, they are focused on developing the prescriptive or goal-
based standards needed for designers to extend to new fuels. Sometimes we need to adapt quickly to explore uncharted waters since safety and other key risks raised by new technologies and fuels seem greater than anything we had been dealing with in the past. In LR, we had foreseen the pressure deriving from the climate emergency quite early. We realized that time lost only added to the challenge ahead. That is why we had attempted to instigate ambitions very early, for example, with a tangible objective for zero-emission ships being available before the end of this decade. In 2020 Lloyd’s Register Group and Lloyd’s Register Foundation created the Lloyd’s Register Maritime Decarbonization Hub, which will provide leadership, knowledge, and safe technical routes to adopting zero-carbon solutions in shipping. Together with five high-profile shipping players, we have set up the Castor initiative. Recently in a joint statement, we announced the construction of the first ammonia-fueled VLCCs by 2025, and we plan more. But make no mistake, we remain informed but unbiased as far as the fuel choice is concerned. We see greater value in our role as maturing and availing more options for the shipping sector than dictating the prevailing solution. As a trusted advisor to our clients, we are ready to assist them in selecting the right fuel fit for every project tailored to specific conditions and climate ambitions.

**What are the decarbonization prospects of the Greek short-sea shipping/coastal shipping sector?** Are there specific initiatives towards the energy transition of this sector, which is an integral part of Greek shipping?

The energy transition is a great challenge for many sectors of the economy, although there are a few areas where we foresee an exceptionally beneficial effect. The infinite renewable potential of our islands coupled with new technologies in shipbuilding can lead to sustainable short sea connections towards what we called regaining our insular territory in the past. Both the Aegean and Ionian islands could constitute the ideal test beds for zero-carbon, hybrid solutions and an excellent synergy between the shipping and energy sectors. We unveiled a part of this potential quite early through our ELEMED project a few years ago. Electric ferries, cleaner LNG, hydrogen applications, and synthetic fuels could lead to a sustainable and more densely connected island ecosystem than ever before. This will also constitute an excellent opportunity for Greek marine equipment makers and shipbuilders to develop the solutions that Greek oceangoing shipping could subsequently apply, fruiting greater added value to the national transition effort.
Alba Graduate Business School, The American College of Greece offers 2 specialized shipping programs, the MBA in Shipping and the MSc in Shipping Management designed to meet the educational needs of the global shipping industry. Both programs are offered entirely in Greece, a country with a long-standing tradition in shipping. Thanks to the careful design of their courses, the high academic standards of Alba, and the strong links the business school maintain with renowned companies and organizations in the global shipping industry, many of its students are in work before their graduation. On average, more than 95% of Alba graduates are in work 6 months after graduation.

JOIN THE BUSINESS SCHOOL WITH THE STRONGEST SHIPPING NETWORK!

Business relevance: Programs have been designed in line with the most recent developments in the shipping industry and in consultation with the Alba Shipping Business Advisory Committee (BAC): a group of select senior shipping professionals!

Scholarships: Financial support through named scholarships full and particle scholarships dedicated to the Shipping program are offered in collaboration with: Hellenic Shipbrokers Association, Masters and Mates Union of Greek Merchant Marine, International Propeller Club Piraeus, Green Award, Wista Hellas, Tsakos Group, Seanergy

Internships: Students with no prior working experience in Shipping have the opportunity to acquire experience through the Alba internship shipping network in some of the most well-known shipping companies.

Field Trip: Alba’s field trips (within Greece and also aboard) provide the opportunity to get a true understanding of the sector’s mechanisms, benefits, rules, and history, as well as begin to feel a part of it.

Other Highlights of our Programs
In recent years, the demand for Executive Development programs has grown in parallel to the interest shipping companies traditionally had for academic/postgraduate degrees. These tailor-made programs are created in collaboration with the company and aim to add value to the organization by equipping executives with contemporary knowledge and skills. The Alba - Thenamaris Executive Certificate in Shipping Management, attended so far by more of 50 participants from all departments and functions of the Organization, is a great example of such co-creation.

On top of companies, networks and collective initiatives related to Shipping are equally interested in training and education. Alba Executive Development collaborates with organizations like HEMEXPO (Hellenic Marine Equipment Manufacturers & Exporters) and WISTA Hellas (Women’s International Shipping and Trading Association) to offer training and development programs designed exclusively for their members.

Having a mutual learning mentality in its core, Alba Executive Development (EXED) celebrates and encompasses the “lessons” learned by its cooperation with the shipping industry: a community with high-quality standards, a group of executives showcasing resilience in their demanding work, agility to constant changes in their work environment, and above all great dedication and love for their company and industry.
The IMO Conventions, which provide the safe operating framework for the entire shipping industry, have taken years to develop; therefore, their amendment to accommodate autonomous ship operations requires hard work. Experts in digital technologies and seafarer well-being organizations suggest that shipping should determine priorities and a series of waypoints on its voyage towards autonomy to support efficient and safe ship operations in the near term. Digital developments and autonomy provide many opportunities for easing the workload that seafarers face. As regulations on fuel quality, monitoring, reporting, verification (MRV), ballast water system compliance, scrubber data, just-in-time arrival information, and so on continue to tighten, the administrative burden on seagoing staff could become overwhelming. In some of these areas, digital technologies are already supporting routine ship functions. Real-time connectivity and advanced satellite communications have enabled a small number of advanced ships to become an extension of the shoreside operation rather than an independent, out-of-touch entity, especially when at sea.

Easing the administrative and compliance burdens of seagoing personnel would make an enormous difference to their working lives. Less time spent on paperwork tasks could mean more reasonable working hours, more time for social intercourse, and more humane conditions. In May 2021, an International Maritime Organization inter-sessional working group submitted its ‘regulatory scoping exercise’ report to the Maritime Safety Committee. While progressive, the report also distilled the scale of the task ahead. For the first time, it highlighted the extent to which maritime safety regulations are based on the human presence on board and the need to provide definitions for different types of autonomy, especially for the following shipping industry stakeholders:

Owners and operators: to have a collective understanding of what is available and what they want, based on an accepted hierarchy of autonomous ship capabilities

Designers, suppliers, etc.: to offer solutions/products to market based on a collective understanding of terms/capabilities

Regulators: to be able to define rules, regulations, and certifications that fit the task at hand

Infrastructure providers: to be able to provide suitable infrastructure solutions

The assurance bodies: to reduce the need to evaluate every system from the beginning and base acceptance on already performed acceptances

IMO initially described four ‘degrees’ of ship autonomy. These degrees were created solely to facilitate its regulatory scoping exercise (MSC 99/WP.9) process, although many have interpreted them as general IMO definitions since then. During the regulatory scoping exercise, relevant flag states acknowledged that these autonomy levels required further consideration and refinement to apply for regulatory purposes.

While they exhibit progressive automation levels and decision support, with the highest degree defined as the fully autonomous ship, the formula did away with ‘Level 0’ as this was not within the scoping exercise.

On a 1 to 4 scale, IMO’s scale for the regulatory scoping exercise is given as:

1. **Degree one**: ship with automated processes
and decision support: Seafarers are on board to operate and control shipboard systems and functions. Some operations may be automated and unsupervised, but with seafarers on board ready to take control.

2. **Degree two**: remotely controlled ship with seafarers on board: The ship is controlled and operated from another location. Seafarers are available on board to take control and operate the shipboard systems and functions.

3. **Degree three**: remotely controlled ship without seafarers on board: The ship is controlled and operated from another location. There are no seafarers on board.

4. **Degree four**: fully autonomous ship: The ship’s operating system is able to make decisions and determine actions by itself. Experts attending IMO meetings have also suggested that the starting point in the regulatory framework toward greater ship autonomy should be the International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW). However, the IMO Inter-sessional Working Group (ISWG) on Maritime Autonomous Surface Ship (MASS) pointed out that the STCW Convention is only applicable as long as seafarers are actually on board an ‘autonomous’ vessel; even amended, it would not be able to accommodate the concept of the remote operator.

The ISWG on MASS concluded that legal provisions such as SOLAS would need to be revised to include crewing definitions. Where automation and automated systems interface with those working at sea today, the following general statements appear self-evident:

**Conditions**: the lower the automation level, the greater the need for constant human attendance, even under “easy” conditions

**Situation**: the lower the automation level, the greater the need for continuous human attendance, even in “simple” situations

**Time**: lower levels of automation either cannot work safely without continuous human attendance or do so only for a short time.

As a general principle, technology-oriented companies urge caution against combining manning with technology levels. Overall, manning regulations are not affected by automation. The two matters should be considered separately to avoid unnecessary complications. The resulting construct takes a different approach to ‘degrees’ of autonomy than that created at IMO.

The definitions apply to different ship systems or operations or, in extreme cases, an entire ship. Their basis is a scale of equivalence based on a modified version of the SAE levels of automation by the Society of Automotive Engineers. Having offered this construct, subsequent sections will provide further thoughts on definitions of terms and use of terminology to support rule development. Levels of automation, modified to include the levels of human attendance required at each level:

**Level 0**: In its simplest form, automation is used to control a process according to set points, which, in turn, control a variable. A human who controls the vessel manually establishes, who establishes desired ‘setpoints’ so the automation can achieve the desired outcome. For example, the navigational watch officer (OOW) sets the desired heading on the autopilot. Level 0 is thought to reflect the current state of maritime regulations.

**Level 1**: A human operating the ship’s functions assesses and takes decisions based on informa-
tion received by entering or adjusting setpoints by way of response. System automation assists the human operator, providing observations/updates and automating basic and simple tasks that are logical extensions of decisions made—for example, a Dynamic Positioning (DP) system.

**Level 1:** is consistent with current maritime regulations in force concerning systems automation.

**Level 2:** The operation of at least one complete function/operational mode is automated: The system monitors the actual situation and can perform actions to achieve the setpoint or result required. The system informs the human operator of the relevant observations and the actions identified as needing to be performed. An example is Track Control (also referred to as Track steering), which combines the Autopilot with the Electronic Chart Display and Information System (ECDIS).

**Level 3:** Here, too, the operation of at least one full functional/operational mode is automated. When certain operating conditions are fulfilled, the system monitors the process according to the setpoints and automatically takes action to maintain the setpoints. An automated docking system is a typical example of conditional automation.

**Level 4:** This is the highest level of ‘human-at-tended’ automation. The functional/operational task is performed to a large extent automatically without human attendance. The system alerts the human operator when intervention is needed if a situation arises where it cannot perform the action within its parameters to achieve the setpoints.

A track control or automated docking system is an automated navigational system that may not require human attendance for a certain length of time, depending on surrounding operational conditions. The system performs all navigational watch-related and collision-avoidance functions and alerts the human operator of any irregularities/observations requiring attention.

**Level 5:** Autonomous operations replace all human supervision and human attendance, requiring no intervention. The goal set for operations is predetermined, but it requires autonomous problem-solving to deal with situations encountered. Such an example is fully autonomous navigation and collision avoidance replacing all functions of a navigational watch. The autonomous system keeps the vessel on its calculated and most efficient route, adjusted to routing and speed based on conditions (e.g., wind, waves, and currents forecast) for just-in-time arrival. The system observes and identifies objects and vessels in the vicinity, assesses risks, and takes action to solve close-quarter situations, adjusting course and speed according to the rules of conduct. The main difference between level 4 and level 5 automation is that, in fully autonomous mode, the system will be capable of coping with exceptions, unforeseen situations, anomalies, faults, etc., without needing human oversight.

Following the successful conclusion of the regulatory scoping exercise, the MSC meeting on 20–29 April commenced work on developing a goal-based instrument regulating the operation of maritime autonomous surface ships (MASS). It approved a road map for creating a goal-based instrument in the form of a mandatory Mass Code envisaged to enter into force on 1 January 2028. The MASS Code will ensure that, whatever degree of autonomy a ship may have, it will operate safely and reliably under any conditions. In light of the committee’s work on enabling the use of MASS, it is necessary to clarify what we are talking about when referring to MASS, especially when it comes to automation technology levels. Precise terminology is essential because the current ambiguity causes misunderstandings about the different technologies and concepts’ scope, application, and functions.
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SAFETY OF NAVIGATION DURING THE SEASONAL FISHING BAN IN CHINA’S WATERS

The seasonal fishing ban in China came into force on 1 May 2022. Like the increase in fishing traffic seen in the period before the ban, the number of fishing boats is expected to increase significantly once the ban comes to its end. As some illegal fishing activities may continue in some areas during the ban, ship operators and masters are advised to take additional precautions when planning a voyage to and from Chinese ports during this period.

The Ministry of Agriculture and Rural Affairs of China regularly issues circulars to clarify the fishing ban period for the four sea areas along the coastal waters of China: the Bohai Sea, the Yellow Sea, the East China Sea, and the South China Sea. The 2021 notice is still valid and applicable. The fishing ban lasts from three and a half to four and a half months, depending on the sea area. In addition to stipulating the applicable area and time, the notice also sets out the types of fishing operations covered by the ban.

Previous experience suggests that the number of fishing vessels in Chinese waters increases significantly in the period leading up to the start of the fishing ban and immediately after the ban ends in each sea area. Moreover, illegal fishing activities may continue in some areas during the fishing ban season, especially in the first part of the period.

In 2021, China MSA issued safety guidelines to prevent collisions between merchant vessels and fishing vessels in the Chinese Coastal Waters. The guidelines recommend that every crew member engaged in navigational watchkeeping duty in these areas should be familiar with their contents. The guidelines provide practical guidance on navigation methods, collision avoidance, and emergency rescue. Specific recommendations are given to merchant vessels before entering or when navigating through areas with a high concentration of fishing vessels.

Additional information on key characteristics of fishing areas and frequency of collisions, as well as recommendations on how to avoid incidents with fishing vessels in Chinese waters, are also outlined in the alert *Expected rise in the number of fishing vessels in Chinese waters – Update* launched by Gard P&I club. The key recommendations are reiterated below:

**Voyage planning:** Consider the designated fishing zones during voyage planning and, where possible, mark them on navigation charts and ECDIS as no-go areas.

**Bridge team composition:** Increase the bridge watch-keeping level in advance to ensure that the OOW has sufficient assistance at night as well as during the day. Plan other onboard activities for relevant crew members accordingly to ensure that bridge team members are well rested for navigation-related duties.

**Safe speed:** When operating in areas with high
You ask, we crew
Our experience at your service
fishing activity, proceed at a safe speed with engines ready for maneuvering. The Officer of the Watch (OOW) should be empowered to adjust the speed as necessary. **Use of RADAR/ARPA:** Make full use of radar and sound fog signals when navigating in fog, even when no fishing boats are sighted on the radar. The use of radar can be vital when navigating these waters. The general practice of long-range scanning (12-48 nm) using the S-band radar to identify clusters of the fishing fleet and the X-band on small range (3-6 nm) for collision avoidance can be effective.

**Keeping clear of clusters:** Where the OOW is able to detect a cluster of fishing boats, try to alter course well in advance to avoid navigating through it.

**Detection and avoidance of fishing boats/nets/marks:** AIS is widely used not only on fishing boats but also on fishing nets/marks in Chinese waters. To evade supervision, fishing boats may have their AIS switched off or manipulated when engaged in fishing activities during the No Suggestions Available fishing ban period. Mariners must be aware of the inherent limitations and risk of over-reliance on AIS in bridge watchkeeping and collision avoidance.

**Communicating with fishing boats:** As it might prove difficult to establish contact with fishing boats via VHF, the use of a whistle and day lamp may be a good way to attract their attention when required.

Finally, the safety of navigation is clearly in the hands of the bridge team members of seagoing ships, especially during the fishing ban period when fishing boats navigate with closed AIS and navigation lights, without any awareness of the risk of collision and its consequences (the sinking of the fishing boat or loss of lives).

**STOWAWAYS: AN INSIGHTFUL BRIEFING NOTE BY HRAS**

The UK-registered charitable non-governmental organization (NGO), Human Rights at Sea (HRAS), published a new Insight Briefing Note regarding stowaways on board merchant ships. According to the Convention on Facilitation of International Maritime Traffic, 1965, as amended (The FAL Convention), a stowaway on board a ship is defined as: “A person who is secreted on a ship, or in cargo which is subsequently loaded on the ship, without the consent of the shipowner or the Master or any other responsible person and who is detected on board the ship after it has departed from a port, or in the cargo while unloading it in the port of arrival, and is reported as a stowaway by the master to the appropriate authorities.”

Stowaways have been taking such inherently dangerous risks and acting unlawfully to bypass established immigration routes and coastal state authorities for as long as ships have been sailing between destinations.

The underlying causes of stowaway activity are similar to those that fuel the seaborne migration pattern in the Mediterranean Sea. Often, stowaways are simply economic migrants. They may be migrating for economic, political, social, or ecological reasons.

The objectives of the above insight note are based on the understanding of the following three axes:

1. Understand the drivers which compel individuals to stow away.
2. Understand the international legal instruments which govern and address the issue.
3. Review of applicable case studies for public awareness.

Regardless of how and where they board a merchant ship, there are several methods upon which stowaways will ultimately rely to gain access physically. Many of these methods are dangerous, and the danger does not end once on board. Indeed, wherever a stowaway chooses to hide for the duration of the voyage on board, he is pressing his own luck. Stowaways usually hide in empty containers, cargo holds, tanks, tunnels, behind false panels, stores, accommodation areas, engine rooms, void spaces, cranes, and chain lockers. Hence, their journey is not at all comfortable. Another critical issue for stowaways is access to clean drinking water and food.

Stowaways are often victims of circumstances who, like many people, want to have the opportunity to improve their lives - to enjoy the higher living, financial, and social standards generally offered by more
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progressive societies. When deciding to resort to a criminal act to facilitate their moving from one country to another by sea, stowaways have weighed the costs and benefits of their action based on a list of factors that tip the scales towards illegal embarkation, known as ‘push factors.’

The decision to become a stowaway on a ship to get away from one’s own country is determined by the following push factors:

**Economic:** Unemployment, low wages, poverty, low consumption, and living standards may push some people away from a country or region. Studies into why people might migrate from West African states to Europe have shown that economic opportunities are a crucial determinant. In Nigeria, Cote d’Ivoire, Mali, and Senegal, jobs and better pay consistently scored highly as the main reasons a person might migrate.

**Educational:** Inadequate educational provision and institutions, medical care, and social security combined with high population growth and a person’s young age are all factors that encourage migration.

**Political:** Countries under effective dictatorship, shadow democracies, bad governance, or experiencing political upheaval may act as push factors for stowaways.

**Environmental/Ecological:** Countries experiencing an ecological disaster, desertification, lack of natural resources, water shortages, soil erosion, and lack of or poor environmental policy may act as push factors.

**Criminal:** There will invariably be people who resort to stowaway activity simply to evade law enforcement agencies in their country of origin. There are legal consequences for the ship’s Master and crew and the stowaway. At the same time, the presence of a stowaway also causes issues for the ship owner, the charterer, the cargo interests, the vessel’s insurers, particularly the Protection and Indemnity insurer (P&I), the flag, and port States. There have been instances of vessels stranded outside ports because the port state would not permit the ship to enter with stowaways on board. The Master carries a particular burden and is legally bound to manage stowaway incidents on board according to the flag state’s laws, in line with the FAL Convention and any contractual obligation they may have with their employer. In an industry with notoriously tight margins, any period during which the ship is delayed will influence a company’s profits. Having a stowaway on board may prevent cargo loading/unloading operations or delay a vessel’s schedule. Essentially, stowaways on board are
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likely to affect the commercial viability of the voyage and lead to claims for delay, deterioration of cargo, and other breaches of carriage contracts which can lead to legal proceedings and costly claims.

Finally, the presence of a stowaway on board reflects the Master and crew’s failure to detect the stowaway. Sometimes, it is perceived as an indictment of their professional standards, which means that some ship managers may opt not to renew the employment contracts of the Master and some of the crew in question.

NEAR-MISS REPORTING ON BOARD SHIPS
Maritime safety has grown because fatal or environmental accidents have revealed deficiencies in the legislation, management, and construction of ships. Major accidents have triggered significant amendments in the regulatory framework, sometimes with substantial changes in the way ship safety is assessed. That means that security has been developed step by step in a reactive way. Sacrifices have been made that count human lives. Eventually, this led to improved safety at sea. All industry stakeholders agree that it is not acceptable to wait for another accident to happen before safety is developed further. Instead, the idea has come up to use not only accidents but also incidents that might have resulted in accidents but for some reason did not (i.e., near misses). But what is really the difference between an accident and a near-miss? The outcome, of course, but the circumstances ending up in either an accident or a near-miss are most likely similar in many ways. According to the ISM Code, near misses should be considered incidents regarding reporting procedures. That would mean that near-misses could also deliver experiences valuable to the future safety strategy. It would also mean that it might be possible to handle future maritime safety proactively.

Improving maritime safety was previously based on a reactive regulatory approach: regulatory improvements were imposed to prevent the recurrence of an unanticipated accident or scenario after it had happened. The ISM Code requires that hazardous situations be reported to the company, investigated, and analyzed to prevent future happenings. In this respect, near-miss reporting is positively evaluated because it represents experiences and mistakes that should be shared as lessons on how to prevent accidents from occurring.

The expression “that was a close call” used by Masters and officers on ship bridges rarely appears on a near-miss report form, thus allowing the possibility of reoccurrence. There is a big difference between the number of near misses that have happened and the number of near misses that have been reported. Officers quickly forget near-miss situations when the safety of the ship is restored. Hazard identification is based on management system documentation (SMS- TMSA- ISO). The documented safety and quality management analysis addresses the gap to improve the implemented systems.

Research carried out to address best practices in near-miss reporting shows that most seafarers and company representatives believe that before addressing the near-miss reporting issue, companies should pursue the improvement of the safety culture on board, which is the real gain. From their perspective, near-miss reporting is a priority to improve general safety on board. However, near-miss reporting is carried out on board as part of the mandatory compliance with the regulatory framework (ISM implementation) rather than a critical feature of safety improvement. Further, it seems that companies are not yet utilizing the reported data to improve the feedback and follow-up within the organization. In contrast, they strongly support the implementation of a confidential external database, where all near missed that occur on board vessels will be reported.
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Shipping markets have been going through a period of intense volatility, partly due to the effects of the Covid-19 pandemic and, more recently, the Eastern European crisis and other smaller-scale events that have led to a persistent energy and inflation crisis. In this context, and as the global economy seeks to enter the post-pandemic era fully, analysts and market participants are focusing on the short and medium term outlook of the freight markets.
MARKETS

TO MEDIUM

OOK
Shippers paying less for freight this year than last are few and far between, as container rates for long-term contracts, on which the majority of containers are shipped, reached record-high levels at the peak of the tender season for this year.

**SPOT RATES MAY CONTINUE TO SOFTWARE**

At the end of Q1, Xeneta's Shipping Index (XSI), which covers long-term contracts, was up 96.7% from a year ago; in other words, on average, shippers are paying twice as much per container in their long-term contracts. The Far East export index is up 92% compared to March 2021, with the import index to the US and Europe up 99.3% and 87.1%, respectively, compared to a year ago.

**Spread of long-term contracts also record high**

Within the doubling of average long-term freight rates, some shippers have seen their rates increase by even more than that, sometimes tripling. Others, signing up for multi-year deals or wider logistics agreements (with carriers), can avoid the biggest price jumps. The main trades clearly show a declining trend in freight rate the longer the contract validity, but although there are examples of 2 and even 3-year validities, most shippers have decided to keep the volumes on 3- and 12-month contracts.

Another development is the increasing premium paid when signing with a freight forwarder rather than directly with a carrier, as many carriers are doing what they can to squeeze freight forwarders out of the market to help with their own strategies of becoming more integrated.

*by Peter Sand,*
Chief Analyst, Xeneta
logistics providers. Within this strategy, carriers are prioritising their biggest and most attractive customers and pushing less important clients towards more ‘self-service’ options.

On the spot market, the Far East to North Europe trade saw considerable softening over the first part of the year, falling to USD 11,600 per FEU in mid-April. This is the lowest spot rate on this trade since the summer of 2021, but it is still more than 700% higher than two years ago.

**Volume switch between US coasts**

Going from the Far East to the US, the bigger movements were on the long-term market, with spot rates remaining relatively flat in the first months of the year. However, in the long-term market, the increasing premium for rates to the East Coast over the West Coast shows the increased attractiveness of the former.

Volumes from the Far East are shifting towards being imported via the US East Coast. In the first two months of the year, imports from the Far East were up by 6.8%, while those to the West Coast were down 8.8%. The congestion and threat of further problems due to labour negotiations make the East Coast more attractive.

In response to this shift, carriers are adjusting their capacity offerings, adding sailings towards the East Coast. However, as volumes move over here, congestion becomes a growing problem on the East Coast, also affecting imports from the rest of the world to the USEC.

Carriers have been looking to add extra capacity to their
fleets to benefit from the high freight rates and opportunities, either by buying second-hand ships or chartering them in. Finding these extra ships is no easy feat, and if a ship is available either to charter or buy, carriers have been paying record amounts, confirming their belief in a continued strong market, which will be able to cover the costs.

Comparing charter rates to today’s freight levels clearly shows the money-making potential. For example, if you take a 6,500 TEU ship for USD 121,000 per day and offer one transpacific roundtrip, the cost for chartering the ship to cover that voyage will be less than USD 1,000 per TEU carried on the trip. Easily covered in today’s market, but if you have taken the ship at that price for several years, your margins may find themselves squeezed come 2023.

**Fleet growth**

It may seem like a large share of the container shipping capacity has disappeared for many shippers, but on the contrary, in absolute terms, the fleet is bigger than it has ever been, and at 24.8 million TEU, double the size it was at the start of 2009. In fact, the fleet grew by 2.4% in 2021 and is now 7.5% larger than it was at the end/start of pre-pandemic 2019, so fundamentally, enough ships have been added to the market to cater for the demand growth.

This year, Xeneta expects the container fleet to grow by around 2.5%, with only 600,000 TEU deliveries expected. Come 2023 and 2024, though, the many ships that have been ordered will arrive on the sea, meaning we expect the fleet to grow by more than 6% in both years, bringing total fleet capacity close to 29m TEU by the end of 2024.

**Outlook**

The low level of deliveries this year and continued congestion problems worldwide offer little hope of significant relief to shippers. While spot rates may continue to soften, reflecting soft demand for container shipping, rates will remain much higher than pre-pandemic. Before we know it, another peak season will be upon us, with many shippers looking to get their volumes in early to make sure they can be in stores on time.

Once into next year, as the many ships scheduled for delivery start arriving, the market is expected to soften further. Port capacity will not magically increase to cater to all the new ships, but capacity will be returned to smaller trades, and many ports will have been able to clear backlogs, barring further disruptions, thanks to lower volumes.

This year will be the worst for many shippers as they will be paying more than ever with still low reliability. Come next year, we expect the costs to fall and reliability to improve, but a return to pre-pandemic conditions is unlikely to be on the cards just yet.
“Go to sea and conquer the world!”

Evangelos El. Angelakos
LPG consists primarily of propane and butane that originate either from crude oil (associated gas) or natural gas (non-associated gas). It is a relatively clean fossil energy source compared to many other fuels and has various applications. It is used for residential/commercial heating, cooking, as transport fuel ('retail use'), and as a feedstock in the petchem and refinery process ('industrial use'). These gases are transported overland and by sea in liquefied form to reduce volume and facilitate handling. Seaborne transportation of LPG, which accounts for c. ¼ of global LPG production, is the most cost-effective way of transportation over the long distances between producing and consuming regions of the world.

In the early 2010s, the global VLGC fleet was less than half of what is now, with just 138 VLGC of a total 11.05 mio Cu.M. carrying capacity. Back then, the MEG was the largest hub for LPG exports accounting for c. 51% of world seaborne trade; Japan imported a ¼ of total seaborne LPG, and freight rates didn’t fluctuate much following a standard seasonal pattern – with volatility being insignificant. By the mid-2010s, the LPG industry experienced a notable change following two major events that took place: the US Shale Revolution and the unprecedented growth in both Asian retail and industrial demand for LPG, led mainly by China.

The strong production growth in unconventional shale oil and gas in the US created a significant surplus of Natural Gas Liquids (NGL) that couldn’t be absorbed by the domestic market and had to be exported. The lack of adequate infrastructure to move LPG to consuming regions and the limited LPG terminal capacity in the US led to a price differential between US and MEG, where prices are correlated to crude oil. The expansion of the USG LPG terminal export capacity from 3.1 mio mt/year in 2010 increased to 23.0 mio mt/year in 2015, which led to the transition of the US from being considered the LPG sector’s importer of last resort to the fastest growing exporter with volumes lifted by 524% from 2010 to 2015 to 20.0 mio mt.

At the same time, growing Asian retail and most particularly, price-sensitive petchem demand prompted the petchem producers to source the most competitively priced LPG. China, which has always been short of propylene, embarked on building a series of new “on purpose” propylene production plants, known as Propane Dehydration (PDH) units. As a result, the US-Asia propane arbitrage (Arb) widened, and the LPG industry shifted to long-haul and large-volume trade, growing by 45.5% between 2010 and 2015 to c. 79.5 mio mt. That was when the available VLGC fleet capacity was insufficient to keep up with the accelerating LPG demand, resulting in skyrocketing freight rates with the BLPG1 increasing to above $140/mt.
The strong and ever-increasing VLGC orderbook during that period from new entrants seeking to capitalize on the expected growth of seaborne LPG trade led to a spate of VLGC deliveries during 2015/16. The VLGC fleet capacity increased by more than 58% in just two years, creating a surplus of available tonnage. At the end of 2016, freight rates collapsed (BLPG1 fell below $20/mt) and remained at historically low levels during 2017/18 (BLPG1 average: $31.3/mt) despite the continued growth in demand. This was bound to happen. The LPG market found an equilibrium from the changes that suddenly took place in the fundamentals and became a more sophisticated and mature market, able to confront the two black swans that accompanied the beginning of this decade: the Covid-19 pandemic and the energy price war.

2020 was a year of seaborne trade “stand-still” for most shipping sectors. There was, however, increased activity in the LPG shipping sector. The Far Eastern LPG retail and industrial demand remained robust, the OPEC+ cuts and the benefits from the expansion of the Panama Canal boosting the arbitrage flow of LPG from the US to Asia offered support to the freight market. LPG tonne-mile increased by c. 3% as Japan imports from the US increased by 7.4% y/y, managing to counterbalance the losses from the US-China seaborne trade. In 2021, seaborne LPG trade grew firmly by 6.5% to 111 mio mt, exceeding pre-pandemic levels by more than 5.3%. US LPG exports remained robust and exceeded 49.5 mio mt (+14% y/y), accounting for 44% of total LPG trade. Although growth in long-haul US exports provided a tonne-mile boost to LPG trade in recent years, nowadays, we should expect a more even balance between US and MEG exports. A greater proportion of US LPG volumes are today anticipated to flow to Northwest Europe (NWE) - reducing the average haul of global trade. In MEG, the gradual easing of OPEC crude oil supply cuts along with the regional expansion in refinery capacity and the Iranian nuclear treaty becoming more likely will increase the competition between the two exporting regions, as ex-MEG LPG
The LPG market found an equilibrium from the changes that suddenly took place in the fundamentals and became a more sophisticated and mature market, able to confront the two black swans that accompanied the beginning of this decade: the Covid-19 pandemic and the energy price war.

Retail LPG demand is the backbone of LPG consumption. For years now, the Indian government has promoted the use of LPG in rural areas; hence, imports were traditionally butane-heavy. Since India’s LPG consumption has soared in recent years, imports will rise by an extra 3.0% in 2022 to 17 mio mt (95% ex-MEG) as higher-priced LPG and crude oil will likely slow LPG supply in the country. In the NWE region, higher petchem demand margins for propane and the lack of domestic supplies could incentivize European flexible steam crackers to maximize LPG consumption and increase seaborne imports back to pre-pandemic levels. The Russian invasion of Ukraine should have a negligible effect on global LPG supply, as Russia exported less than 1.0 mio mt of LPG in 2021. However, NWE and Med buyers are most likely to find alternative suppliers in the Atlantic basin (US and WAF) and from floating storage.

In terms of fleet, in 2021, VLGC capacity grew by 8.2%, as 18 newbuildings of a total of 1.54 m. Cu.M were delivered, and no demolitions took place. In 2022, fleet growth is projected to ease to c. 5.5% and pick up sharply to 13.7% in 2023 as a new spate of newbuildings are due for delivery. Last year, record-high VLGC ordering was mainly driven by the uptake of dual-fuel designs against the backdrop of the accelerating regulatory environment.

The outlook for the VLGC market seems positive for the rest of 2022. VLGC spot earnings on the MEG-Japan route are currently at $37,000/day, with the BLPGI trading above $66/mt, the Arb is open, and both LPG tonne-mile demand and fleet growth are well balanced. 2023 is expected to be slightly more challenging for the VLGC sector due to excessive fleet growth. However, the implementation of new IMO regulations and the potential scrapping of elder and less technologically advanced vessels could provide some support.

No matter what... the VLGC market has such strong fundamentals that it can overcome any short-lived disruptions.
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THE MARKET IS RELATIVELY BALANCED TOWARDS 2024

Deteriorating dry bulk freight rates and increased uncertainty

During the first quarter of this year, we have seen a seasonal slowdown in earnings across the board, but the smaller segments have fared better than the larger ones. This was due to the positive influx from the reversal of containerisation, made possible by the box shipping boom in the Container market, supporting freight rates. We also see freight rates increasing after Russia invaded Ukraine, as war premiums and bunker costs rise. Due to longer distances for both grains and coal, there might be a potentially positive effect on ton-miles, but demand may be dampened with rapidly increasing commodity prices. The smallest vessel segments are most exposed to the Black Sea and Russia, while the Panamax segment may be assisted by additional long-haul grains and coal voyages. New and larger outbreaks of Covid in China threaten to negatively impact the market with lockdowns, as China remains firm on its ‘zero Covid’ policy.

Capesize rates averaged 15,600 USD/day so far this year, last reported in early April around 11,700 USD/day. The Sub Cape segments averaged around 22,000 USD/day, with Supramax at the top at almost 25,000 USD/day, last reported at ~28,000 USD/day. Given the escalating conflict in Ukraine, the remaining Covid 19 disruption, and macroeconomic uncertainties in general, the market uncertainty and volatility are expected to remain elevated. On top of this, the new decarbonisation regulations from IMO will come into effect in 2023, impacting fleet efficiency.

Balanced market supporting decent freight rates going forward

The world steel industry is responsible for almost 40% of dry bulk trade. Of this, iron ore trade is by far the largest, almost 35% of the dry bulk trade, and 75% of the iron ore trade are imports to China. For the last 20 years, growth in steel production in China has been of paramount importance to dry bulk demand and ensured relatively strong growth in seaborne trade. Last year, China ordered steelmakers to keep crude steel output within 2020 levels in a bid to curb carbon emissions and cap iron ore prices, causing the country’s annual crude steel output to decline for the first time since 2015. The actual output in 2021 dropped 3.2% from 2020 as an end year energy crisis led to firmer enforcement of the restrictions. The property sector, responsible for 30% to 35% of steel demand in China, took a severe hit, with floor space under construction dropping 8.5% after regulators imposed tightening measures early last year.

Fixed asset investment in infrastructure, another key driver of Chinese steel
demand, barely increased by 0.5% in 2021. The level of special bonds, as well as supporting infrastructure investments issued by local governments for 2022, was set at Rmb 3.65tr, unchanged from last year.

On March 16th of this year, China announced a set of monetary measures for economic growth, including de-risking its property sector. However, the country's construction steel demand is unlikely to improve in the short term, as the measures were not targeting investments in the property sector. Expectations are for developers to restructure debts and focus on delivering homes on schedule rather than expanding into new projects. In recent years, the hidden debt risks of local governments have been steadily eased. Combined with the government's increased focus on emission targets, swap projects, and production restrictions, we maintain our view that steel production growth is set to slow down in the years to come.

Iron ore inventories increased substantially during Q4 last year as steel production slowed and prices dropped. We expect the seasonal inventory building to continue during 2022 due to slow demand and favourable pricing. Hence, the iron ore trade will not grow going forward but will remain the largest contributor to dry bulk demand.

Both China and India faced power shortages, with coal inventories falling to decade-low levels in H2 2021. As a result, governments in both countries urged producers to step up domestic production. In China, domestic coal production increased by 7.4% in Q4 year over year. At the same time, coal imports increased substantially, posting almost 330mt in 2021, a 7% increase from 2020. However, we expect import quotas to continue to be the dominant policy, coal production to be elevated, and coal consumption to peak in 2025, hence limited growth of Chinese coal imports.

In India, coal production ramped up over the second half of 2021, increasing 10% year over year. Inventories increased from 4 days cover and stabilized at around 10 days. However, coal production is not expected to keep up with coal demand, and hence, India's steam coal imports are projected to increase 120Mt over the 2021 to 2025 period. Increased coal import to India and other Asian countries and rising grains, soybeans, and other minor bulk trades boosted total ton-mile demand to about 3.5% in 2021 and is expected to support a ~3.5% growth this year. 37 Mdwt of Bulkers hit the waters in 2021, half of which were Capesize vessels. With the strong market, scrapping amounted to only 7 Mdwt while new ordering increased to 33 Mdwt.
At the same time, the orderbook-to-fleet ratio is still at a record low at 7%, but up from a low point of 5.6% in Q2 2021. In the next couple of years, slow fleet growth and easing supply-side inefficiencies from a record high congestion level and Covid restrictions should result in ~3% supply growth this year. Supply is expected to drop substantially into 2023 as the new IMO regulations on decarbonisation and greenhouse gas emission targets come into force, potentially removing 3-4% of effective capacity. While there are several ways of reducing GHG emissions, the most readily available method will be to install Engine Power Limitations to reduce vessel speed, which will have implications for the effective trading capacity of the fleet.

Even with slower demand and supply growth, the market is relatively balanced towards 2024, and we project decent freight rates for all vessel segments. However, at the end of the projection period 2024/2025, a weakening dry bulk market balance could put downward pressure on freight rates in all segments.

Dry Bulk market uncertainties
The Russia/Ukraine conflict will potentially negatively impact economic activity and growth through an effective shut-in of raw materials and consequent high commodity prices, despite Russia only accounting for below 2% of global GDP. The unknown duration and potential extent of warfare also reduce visibility for the future. Ever-rising inflation and monetary measures to combat the higher prices will likely impact consumer sentiment and investment spending, potentially being a stronger drag on dry bulk demand than anticipated. While currently not as high on the agenda, further Covid-related upsprings are also seen as possibly hampering economic growth, as China is fighting its worst Covid upspring in two years.
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Blue Planet combines traditional Greek shipping values along with an innovative spirit. The vessels are equipped with contemporary technology devices that enhance the level of safety and protect the environment. In close cooperation with Anemoi Marine Technologies, Blue Planet Shipping is the first company worldwide to manage a bulk carrier equipped with wind rotors based on the Flettner principle.
THE SECTOR IS EXPECTED TO SEE A VERY MODEST FLEET GROWTH THIS YEAR

Shortly before mid-May, the Baltic Dry Index reached its highest level since mid-December 2021. Even though the first months of the year traditionally represent a quiet period for the sector, the resurgence of the pandemic across key trading regions, including China, together with the Russia’s invasion in Ukraine at the end of February, have extended trade disruption, offering support to earnings across most dry bulk sizes. While it is too soon to assess the longer-term impact of the war in Europe, the short to medium-term prospects for the sector remain overall positive. Existing sanctions imposed by EU nations on Russian steel, along with those on coal, which are set to kick off in August, and the significant disruption in wheat exports from the Black Sea, are developments with a significant impact on the dry bulk sector.

The EU, which up until recently has been covering more than 40% of its needs for semi-finished steel products from Russia, will have to rely even more on Turkey, its other significant source for the commodity, while with Turkish production not up to speed at this stage to satisfy increased demand from EU and Ukraine, the group’s third-largest steel source, at war, more supply will have to come from its exporters further away like Brazil, China, S. Korea, and India. As 45% of the EU’s coal imports come from Russia, and EU27 together with the UK represent more than 23% of total Russian coal exports, the importance of this trade is also admittedly tremendous. With the timing of the sanction’s announcement coinciding with an already high energy price environment, it becomes even more pronounced. Russia will try to divert part of its supply to longer-haul destinations in Asia, where most of its major buyers are already based (and even India, which is currently not a big importer of Russian coal). At the same time, the EU will turn to other exporters who are also located much further away. With Russian exports traveling to more distant regions and EU and UK imports being sourced

| Share of Russian coal exports in 2021 (source: Refinitiv) |
|-----------------|-----------------|
| China           | 24%             |
| EU27 & UK       | 23.5%           |
| S. Korea        | 11.3%           |
| Japan           | 10.8%           |
| Turkey          | 7.5%            |
| Ukraine         | 5.5%            |
| others          | 17.4%           |

from further afield, tonne-mile demand is bound to get a significant boost in this case as well. Having said that, it
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might not be as easy to fully satisfy EU demand with supply from countries like Indonesia and Australia (where EU buyers have already approached producers) due to both countries’ existing contracts and the difficulty in boosting production significantly altogether.

Additionally, Russia and Ukraine make up more than 34% of the global wheat trade, while 1/5 of Russian wheat is exported to Europe. Although no sanctions on Russian grains are under consideration, given that Ukraine’s railways are struggling with a backlog of grain wagons after Russia’s invasion and that Black Sea ports have been blocked, EU countries will also have to rely on importers based farther off to replace lost wheat imports from both countries, with France, another major nearby exporter, unable to cover for the “lost” supply.

The positive effects of the above trends have already filtered through to dry bulk earnings for all sizes up to Panamax, with Capes lagging. Although it is not unusual for the big bulkers to underperform the rest of the market during Q1, the disappointing performance for Capesize earnings has this year extended for much longer, following curbs on Chinese steel production that have been intensified in the previous quarter due to the Winter Olympics (which demanded lower emissions from steel mills) and the pandemic resurgence, which, until recently, has brought very strict lockdowns across the country.

### Panamax T/C average $/day

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Q1 AVERAGE</th>
<th>APRIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>7,983</td>
<td>10,589</td>
</tr>
<tr>
<td>2013</td>
<td>7,092</td>
<td>8,982</td>
</tr>
<tr>
<td>2014</td>
<td>10,427</td>
<td>6,669</td>
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<tr>
<td>2015</td>
<td>4,846</td>
<td>5,073</td>
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<tr>
<td>2016</td>
<td>3,098</td>
<td>5,401</td>
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<tr>
<td>2017</td>
<td>8,262</td>
<td>11,576</td>
</tr>
<tr>
<td>2018</td>
<td>11,531</td>
<td>10,614</td>
</tr>
<tr>
<td>2019</td>
<td>7,076</td>
<td>9,039</td>
</tr>
<tr>
<td>2020</td>
<td>5,744</td>
<td>5,724</td>
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<tr>
<td>2021</td>
<td>18,390</td>
<td>21,627</td>
</tr>
<tr>
<td>2022</td>
<td>23,217</td>
<td>26,403</td>
</tr>
</tbody>
</table>

However, the fact that iron ore prices have increased more than 70% since the second half of November and that this positive price trend kept taking place even though Chinese port stocks have been hovering around decade highs up until recently, reflects positive expectations for the Chinese economy in the remainder of the year. China’s central bank is expected to lower the reserve requirement ratios for banks in Q2. As the market sees increasing growth-favoring policy support from the Chinese, hopes that steel and iron ore demand are bound for an impressive recovery during Q2 have been quickly building up. As lockdown measures haven’t significantly started to ease, capacity at blast furnaces in the country is recovering slowly, with coal exports from Asia to Europe being the main driver for Capesize earnings at the moment.

The positive sentiment regarding the sector’s prospects is also evident on the sale and purchase front, with activity during January-March, estimated 26% above the average number of Q1 transactions during the past decade. Even though activity peaked around Q2 2021 and Q1 2022 transactions are notably 40% less compared to Q1 2021, it certainly does not seem that excitement among prospective investors has waned, with Q1 2022 activity increasing compared to the previous quarter (Q4 2021), which has rarely happened in the past. One would not certainly expect the investing tempo to be sustained at the extreme volumes of last year. At the same time, aside from those owners currently selling tonnage acquired at the lows of the pre/post-pandemic months, several others are keen to ride the war shockwaves and exhaust the freight market momentum instead of selling for the profit the respective asset appreciation offers so far.

Aside from medium-term fundamentals improving due to the war in Europe, the sector is expected to see a very modest fleet growth this year (about 2.6%), with IMO regulations entering into force in 2023 helping keep the deadweight supply in check. However, as far as longer-term prospects for dry bulkers are concerned, aggressive inflation remains a major threat, with the IMF warning in its latest outlook that the scarring of surging prices across most commodities will be particularly visible in emerging market economies that have been the backbone of dry bulk trade growth.
The sea is our world...

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THE RUSSIAN-UKRAINE CONFLICT HAS SHARPLY ALTERED THE LANDSCAPE OF THE TANKER MARKET

Russia’s invasion of Ukraine has sharply altered the landscape of the tanker market. How the shift in tanker trade flows will develop in its aftermath and the volume of the required replacement supplies are creating uncertainty, especially for crude tankers. It has been just two months since the invasion began, and the oil and tanker markets have had to respond rapidly to unprecedented circumstances. The current transition period away from Russian oil has yet to take a definitive shape for some sectors; while alternative, more immediate supplies are sought in this period of tighter oil availability, Russian grades are still being utilised. The capacity of willing alternative buyers of Russian oil remains unclear. But in a low oil stock environment and with most oil futures markets in backwardation, the “hand to mouth buying” that typically ensues will ensure periods of tanker rate volatility and vessel supply dislocation. The replacement supplies needed will translate to more tanker tonne miles.

For the clean sector, oil supply imbalances and shortfalls, especially in diesel, will mean increased clean tanker trade flows this year despite demand destruction from higher oil prices. The Atlantic basin, especially, will require more imported supply as it navigates away from its dependence on Russian refined oil products. European refinery capacity has closed since the start of the pandemic so it cannot be self-sufficient in filling a loss of Russian diesel as it has surplus gasoline rather than distillate output. In OECD Europe, International Energy Agency (IEA) members have pledged since March to release 38.5M bbls of refined products that will take place over the next six months. This should help replace Russian oil, but we would still expect the region to need distillate supplies from other areas, such as India, the Middle East, the US, and Asia.

The US is to boost refinery throughputs substantially as US refined oil supply is tight and stocks are at multi-year lows. US diesel cracks are so high compared with gasoline that US refiners may prioritise diesel output over gasoline. This could incentivise more gasoline to move from international markets to the US.
east coast, where a few refineries have closed in recent years, while allowing the US to continue ramping up diesel exports. Latin America and Africa are significant product importers and, given European demand, may find increased competition for clean products. While Asia and the Middle East will be alternative suppliers, Russian refined products could instead move to these consuming regions. But this has to factor in higher freight costs for Russian oil cargoes, which may act as a deterrent.

Vessel supply dislocation is already apparent in the LR sector. Naphtha flows from the Atlantic basin to Asia have been restricted by European use for gasoline blending as shunning of Russian naphtha, while weak petchem margins and reduced manufacturing activity is curbing Asian naphtha import demand. With distillate opportunities from East of Suez to the west, this is reducing LR supply East of Suez while there is no replenishment of ships coming from the typical west to east trade flow moves. LRs and MRs are ballasting from the Mediterranean to lift the Red Sea and Middle East Gulf cargoes, thus creating fleet inefficiency and a firmer rate environment. There is scope for more Middle East, Indian, and Asian refined products to move to Europe and elsewhere in the Atlantic, given new refinery capacity additions and rising throughputs.

For the crude market, the near-term shorter haul nature of crude replacement needed by Europe suggests that Aframaxes and Suezmaxes will be subject to volatile trading patterns, but there are challenges, especially for VLCCs. While cargo flows are increasing, with Asian refiners ramping up runs due to record margins, it is evident that many of these refiners have moved away from Atlantic suppliers to Middle East crude, so keeping tonne miles shorter for VLCCs. Restricted volumes of Atlantic to East oil trade due to unfavourable pricing will continue to curb the upside for the large tankers. The severe lockdowns in China under its zero Covid policy will hamper its crude imports near-term as refinery throughputs have been cut. And China has a stock cushion that many other regions do not have.

The massive and unprecedented Strategic Petroleum Release (SPR) coordinated by the IEA in March and April presents a mixed picture for the crude sector. The release will amount to over 1M b/d in the six months from May. This is expected to help offset the shortfall in global oil supply until non-OPEC production (mainly from North and South America) ramps up later in the year, and OPEC+ continues its gradual output increase. The release could limit the crude import needs of IEA members, shielding them from high international oil prices. However, in the case of the US, it should lead to higher crude exports, which may further propel the US to Europe trade and possibly more cargoes to Asia.

From a vessel supply standpoint, clean tanker fleet growth should slow this year as the pace of ordering compared with recent years has slowed, while removals have picked up with scrap prices at their highest since 2008. There is a much heftier delivery schedule for the crude sector this year, especially VLCCs and Suezmaxes. Scrapping has been lagging, except in Aframaxes, as sanctioned trades have been utilising older tankers. However, the advent of the IMO’s decarbonisation regulations from 2023 and the introduction of an EU Emissions Trading Scheme will place greater pressure on inefficient tankers to leave the fleet.

Wider negative market factors may hamper tanker fleet growth this year with a slowing global economy, high energy costs causing oil demand destruction, inflationary pressures, and Covid responses to consider. But the unprecedented shift in trade flows ahead due to the Russian-Ukraine conflict and the longer tanker tonne-mile routes that are expected should create a firmer earnings scenario than the tanker market has experienced since the pandemic began.
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The Founder and CEO of Lalizas talks about the challenges he has faced during the 40-year lifespan of his company and discusses the company’s growth plan.

In Every Crisis, There is an Opportunity

An interview with Mr. Stavros Lalizas, Founder/CEO, Lalizas

2022 marks the 40th anniversary of the founding of the Lalizas company. What are the lessons learned over these years, and what traditional values would you like your company to preserve in the future?

This year we celebrate 40 years in the field. I started this business as a small manufacturing plant of buoyancy aids for professional sailing back in 1982. Today, Lalizas has turned into a multinational company with 10 branches, 8 logistics centers, 7 franchises, 6 factories, and 700 employees worldwide. Since the beginning, it has been clear that systems and processes had to be part of the company, while organisation was key to our success and development. The people who are the company’s backbone have contributed significantly to this development. These people have been working at Lalizas for years, now hold key management positions, and treat the company as an extended family. What I have learned over these years is that we should never forget our past, how we started, and of course, the people who stood by our side. We are blessed that we have managed to grow without leaving behind the ‘family’ feeling, focusing on the following values that we aim to preserve in the future:

- Clear and consistent vision
- Quick decision making
- Management stability
- Continuity
- Opportunities for personal & professional growth as well as mentoring
How did Lalizas manage to grow from a small sailing equipment factory to a company with a global presence? What challenges have you faced over these years?

Following a period of manufacturing buoyancy aids in my family home, which used to be my business base at the very beginning, I started to produce other equipment mainly related to windsurfing, such as harnesses. So, I got involved in plastics manufacturing. This whole new world of making your own products, and therefore, your own moulds, was a great opportunity to always think of something new to create; however, it was way too costly. We had to find a way to recuperate the resources invested, meaning we had to increase our sales. As a result, I started to think about exporting my products. It was not easy; people were reluctant. However, the biggest challenge we faced was the fire that broke out at our premises in Greece in 2000. This event almost put us out of business, but we managed to get through it.

After the catastrophic fire that broke out at your headquarters in 2000, you managed to recover very soon. How easy is it for a company of your outreach to address a crisis? How has the pandemic changed the way you operate?

Indeed, on the 23rd of October, 2000, we came up against this unfortunate incident. A disastrous fire broke out at Lalizas' premises and destroyed everything for unknown reasons. It was a massive loss for us, which literally almost put the company out of business. However, as you mentioned, we managed to recover very soon because even though we did not have the systems and procedures we have today, as a team, we set goals for our comeback, which we achieved very quickly. We managed to set aside all the obstacles and look towards the future.

What I personally believe, and always try to pass on to everyone around me, is that in every crisis, there is an opportunity. It might not be easy, but it is feasible. Today a crisis can be handled differently in terms of systems, procedures, technological means, and other support channels. Fast reflexes and quick decision-making, based on facts and not on assumptions, are also crucial.
Regarding the pandemic, it has been a very odd and difficult situation for everyone around the world since it was something new that drove us to work in a different way (remote work). During this period, our most valuable asset has been, once again, our people, who are always ready for new challenges; the kind of training we provide to every member of #thelalizasforce enables them to get out of their comfort zone. Everyone needs to be open to change. You never know what the future holds. Flexibility, fast reflexes, and dedication to your goal are vital skills to succeed in any field of operation.

Security is a priority for all parties involved in shipping, especially in recent years. What actions and initiatives does Lalizas take to enhance maritime safety?

Since 1982, Lalizas’ mission has been to ensure your safety at sea by manufacturing reliable safety solutions. As our motto states, “Safety is not just a product; it is an ongoing process!”. What is crucial throughout this process is to listen carefully to the market. Needless to say, it is imperative the equipment we provide be manufactured following the latest regulations and highest standards and then approved and certified by certification authorities. However, designing and manufacturing high-quality lifesaving equipment is not enough to ensure safety at sea. Throughout my long experience in the field, I have seen that ship owners and ship managers pay close attention to maintaining the equipment in perfect condition to keep everyone on board safe and sound in the event of an emergency.

In this context, we organise (face to face and online) training on lifesaving equipment inspection in close cooperation with the technical departments of shipping companies. Many do not know the details about the proper maintenance and operation of rescue equipment, although they are extremely important.

Could you elaborate on your company’s growth plan? Are there thoughts of expanding your portfolio of services?

Over the years, we have achieved impressive synergies through strategic acquisitions without compromising our organic growth. Our goal is to continue enriching the market with innovative safety solutions and adding value to the maritime community. As a result, we have been giving equal attention to both our services and products in recent decades, expanding our portfolio of services. Two such examples are the Fire Safety Rescue (FSR) Department and Fast & Independent (F&I) Liferaft Exchange, established to offer a total safety solution through innovative service and supply available in most major ports. Through the FSR, we can support a vessel’s needs at almost any port, offering service and replacement on all LSA and FFE with minimum port stay. F&I is a radical game-changer in the liferaft market, a unique proposal to ship owners/managers for a simple and fast liferaft exchange to keep the vessels compliant and in service. F&I offers liferaft compliance through an exchange in the world’s key ports as a managed service - for a single fixed fee - without a contract and no single OEM brand restriction.
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Europe’s maritime transport system is rapidly changing amid the unfolding supply chain crisis and intense geopolitical tensions in Eastern Europe. Given its geographical location, the Baltic Sea plays a critical role in this new order of things. On the occasion of the upcoming Posidonia Exhibition and after the kind invitation of the Embassy of the Republic of Poland in Greece, the editorial team of Naftika Chronika traveled to Poland to better understand the realities of the country’s maritime cluster, which is growing and is high on the local government’s agenda.

During our meeting with Minister Marek Gróbarczyk, Secretary of State in the Ministry of Infrastructure in Warsaw, he presented the ministry’s priorities on maritime transport. One of the Ministry of Infrastructure’s priorities is to ensure the effective implementation of the “Programme for the development of Polish Sea Ports until 2030” adopted by the Council of Ministers on 17 September 2019. The programme’s main objective is the long-term strengthening of Polish sea ports to become leaders among the Baltic Sea basin’s sea ports, acting as major hubs for global supply chains in Central and Eastern Europe, increasingly participating in the country’s socio-economic development. It also defines activities related to the development of access infrastructure to sea ports from the sea and land, including the development of road and rail corridors and river routes, ensuring better transport accessibility to sea ports.

At the same time, the Ministry of Infrastructure will continue the activities started in 2015 and undertake research into new opportunities to support the reconstruction and revival process in...
the shipbuilding industry. These actions aim to fully utilise the potential of Polish shipyards and their research and development facilities in the area of new constructions, rebuilding, or repairs, as well as reviving shipping-related industries, thus giving the shipyards a solid basis on which to operate and compete in the global market.

To facilitate these actions, the Polish shipbuilding industry, in coordination with the ministry, is working on the National Pavilion at the Posidonia Exhibition, an idea first conceived during the previous Posidonia Exhibition, as a means to increase the Polish shipbuilding industry’s recognition and strengthen and consolidate the position of Polish enterprises as reliable, professional players in the global maritime market.

Representatives of Polish shipyards, design offices, manufacturers of marine equipment, the port industry, and classification institutions have signed an agreement on the co-organisation of the National Pavilion. The participating entities are:

1. Port of Gdansk Authority S.A.
2. Port of Gdynia Authority S.A

The Port of Gdynia has been building the future of the city, economy and business for 100 years. Current investments are a continuation of the vision of the founders of the port - Tadeusz Wenda and Eugeniusz Kwiatkowski. Subsequent huge projects are being built with the next generations in mind. 100 years of the Port of Gdynia’s existence is a time of constant changes and improvements to the infrastructure which is to serve the Polish maritime economy and future generations.

The Port of Gdynia, as an important node of the trans-European transport network, is a natural extension of the Baltic-Adriatic Corridor towards Scandinavia, connecting Poland with Sweden through the Motorway of the Sea Gdynia-Karlskrona. The construction of the port in Gdynia and the development of maritime trade were among the strategic aims of the Second Republic of Poland. From 1922 onwards, the port infrastructure was gradually expanded. The creation of the port in Gdynia, and later the shipyard, became the key to the rapid development of both the city and the whole of Poland. To this day, the Port of Gdynia is a driver for the development of the city and the region, setting trends for solutions in the maritime industry.

**POLAND**

Thinking out of the box about maritime industry

**Seminar during Posidonia 2022**

International Shipping Exhibition

Tuesday, June 7, 2022 | 10:30-12:30 hrs
Metropolitan Expo Center | Posidonia Seminar Room Central

See more: www.gov.pl/web/greece
3. Sea Repair Shipyard SA Gryfia

4. Szczecinska Shipyard, Wulkan’ sp. z o.o.

5. Shiprepair Yard Nauta

95 year old Nauta Shiprepair Yard, being the oldest operating civilian yard in Poland, performs works on all kind of vessels in 2 segments: repairs & conversions of merchant vessels and defense production. Nauta has also designed and built over 500 vessels of various types. There are 4 docks (including 240m x 40m graving dry dock) in the repair facility located in Gdynia.

6. Trident BMC LLC

Trident BMC LLC provides turnkey services for cruise and merchant vessels. The company specializes in environmental solutions, having an extensive portfolio in the installation of systems for GHG reduction, Ballast Water Management Systems, and Energy Management Technologies which allow significant savings on energy consumption, both in Engine Rooms and HVAC systems. Apart from that company has dedicated divisions for boiler services and for interior refits of luxury cruise ships, which is one of its primary business areas.

7. Bota Technik

Bota Technik has provided global marine services to the maritime and offshore market since 2011. The company is headquartered in Gdansk and has branches in Rotterdam and Szczecin. Bota Technik offers a wide range of propulsion, power hydraulics, marine engine, automation, and design services.

8. Ministry of Infrastructure

9. Polish Register of Shipping, the Polish classification society.

The Polish Register of Shipping (PRS) is a Polish classification institution and a member of IACS (International Association of Classification Societies), an organization approved by the European Commission to perform surveys and inspections of sea-going ships as well as inland waterways vessels, and the EU notified body. Today, PRS plays a vital role in the Polish maritime economy by directly ensuring vessels’ technical safety, linking science and industry, and integrating the maritime sector. The PRS is authorised to act on behalf of 40 maritime administrations. On 16 April 2019, the Hellenic Administration also recognised the PRS, which has classed Greek-owned (under Greek and other Flags) vessels whose registered tonnage approximates 400,000 GT.

Strengthening the recognition of the Polish maritime industry is an important element of activating the Polish shipbuilding industry, coinciding with other activities undertaken by the Ministry of Infrastructure.

During the visit, we also had the chance to see up close the construction operations of the waterway connecting the Vistula Lagoon with the Gulf of Gdansk. The project involves:

• Constructing a navigable channel (cut) through the Vistula Spit, which will include:
  - a protective harbour on the authorised Gulf of Gdansk side
  - a shipping channel with a lock and closures
  - an artificial island in the Vistula Lagoon
• Creating a fairway in the Vistula Lagoon - from the shipping channel to Elblag Bay
• Deepening the Elblag River waterway up to the P2 landmark located about 4.5 km upstream from the existing bridge in Nowakowo

Creating a waterway is a significant investment that will allow vessels with a draught of up to 4-4.5 m and up to 100 m in length and 20 m in width to enter the Port of Elblag. The channel will be fully operational in September.
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S&SYS was established as a spin-off company from the Machinery & Electric System team of Samsung Heavy Industries on September 1, 2017.

Based on technologies and knowhow accumulated over 28 years in the shipbuilding and marine business, S&SYS has developed key equipment such as Ballast Water Treatment System, Ship Automation System, Marine Switchboard, Fuel Gas Supply System and Energy Storage System.
GEN2 ENERGY PARTNERS WITH SIRIUS DESIGN & INTEGRATION TO DEVELOP THE WORLD’S FIRST CARRIER FOR HYDROGEN

Gen2 Energy AS has signed a contract with Sirius Design & Integration AS to design two specialized ships to transport large quantities of containers with compressed hydrogen. The two container carriers of Gen2 Energy will be large vessels about 190 meters long and have a load capacity of 500 FEU containers. The vessels will be designed to leave the lowest possible climate footprint. Using hydrogen in the vessels’ propulsion systems will be part of the design work. The ship design work is well underway.

Gen2 Energy is currently developing large-scale production of hydrogen in Mosjøen, Norway. As part of the volume will be exported to countries in Northern Europe, a safe, effective, and green method for transporting large numbers of containers with compressed hydrogen will be required. Seaborne transport is a natural choice, but no vessels are currently approved for carrying a large amount (>100) of containers with compressed hydrogen gas.

GLOBAL COLLABORATION FOR THE ADOPTION OF AMMONIA AS A MARINE FUEL

Itochu Corporation and 16 other companies and organizations have launched a framework for sharing issues, knowledge on safety, and ammonia supply guidelines for the use of ammonia as a marine fuel. The Joint Study Framework (JSF) for Ammonia Bunkering Safety is the second phase following the existing Joint Study Framework launched in 2021 by 34 companies and organizations and focuses on sharing issues and knowledge related to safety assessment and bunkering guidelines for the supply of ammonia fuel for marine use among port authorities, bunkering related players and research institutions.

In addition, a consortium of six companies, including Itochu, TotalEnergies Marine Fuels, Pavilion Energy, Vopak Terminal Singapore, Mitsui O.S.K. Lines, and Itochu Enex have signed a Memorandum of Understanding with the Maritime and Port Authority of Singapore, a member of the JSF for Ammonia Bunkering Safety, to jointly promote the development of an ammonia fuel supply base in Singapore. With the cooperation of the Maritime and Port Authority of Singapore, the partnership will further promote the development of a safe fuel supply system and ammonia bunkering vessels.

The JSF for Ammonia Bunkering Safety and the Memorandum of Understanding are important milestones for the implementation of ammonia as a marine fuel on a global scale, which is a new challenge for maritime stakeholders.

WORLD’S FIRST SUCCESSFUL USE OF SYNTHETIC NATURAL GAS IN COMMERCIAL SHIPPING CUTS GREENHOUSE GAS

MAN Energy Solutions reported that the 1,036-TEU container ship, ‘ElbBLUE’ – the former ‘Wes Amelie’ – has reduced its greenhouse gas (GHG) emissions by 27% by operating on a blend of climate-neutral, synthetic natural gas (SNG) and conventional liquefied natural gas (LNG), com-
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pared to LNG alone. Compared with heavy fuel oil (HFO), GHG emission reduction was as high as 34%. The data had emerged from measurements initially carried out on board the ship in September 2021 when the ElbBLUE became the first container ship worldwide to replace a portion of its bunkered gas fuel (around 50%) with SNG. The gas operation also drastically reduces other polluting emissions compared to HFO. In the case of the ElbBLUE, nitrogen oxide emissions (NOx) dropped by almost 87%, while emissions of sulphur oxides (SOx) and particulates were almost completely eliminated (~99%). These values were achieved in both the exclusive operation on LNG and a blend of LNG and SNG.

Measurements were carried out on a voyage between Brunsbüttel, Germany, and Rotterdam, the Netherlands, with SNG comprising approximately 50% of the bunkered gas at 85% engine load. The ElbBLUE is powered by a MAN 51/60DF four-stroke engine. As a multi-fuel engine, the unit allows operation with either HFO or liquid natural gas (LNG) as fuel. The ship’s test run proved that the latter can be replaced by SNG without engine modification.

SNG is considered a carbon-neutral fuel as its combustion releases only as much CO₂ as captured during its production using power-to-X technology. However, just like LNG, SNG consists mainly of methane (CH₄) and, during operation, small unburned quantities of the gas can escape – so-called methane slip. Methane is considered a greenhouse gas 28 times more harmful to the climate than CO₂ when released unburned into the atmosphere.

MARINE BIOFUELS ON THE RISE

As part of ongoing efforts to achieve its decarbonization objectives, Pacific International Lines (PIL) conducted a trial use of marine biofuel on its container vessel “Kota Megah” when it called at the port of Singapore on 10 April 2022. The main aim of the trial was to test the feasibility of using marine biofuel in the vessel’s engines and obtaining first-hand data on the potential carbon and other emissions. With this experience, PIL will better assess the technical and commercial viability of using bio-fuel as a potential “drop-in” fuel solution to achieve the overall reduction in carbon emissions of its vessels.

The type of biofuel on trial is a blend of fatty acid methyl esters (FAME) and very low sulphur fuel oil (VLSFO).

FAME is an alternative renewable fuel produced mainly from recycled cooking oils and renewable oil sources. It has physical properties similar to
conventional diesel but is also non-toxic and biodegradable. The origination and production of the feedstocks used to produce FAME are certified for their sustainability to internationally recognized standards.

AN ADVANCED BIOFUELS FACILITY IN THE NETHERLANDS

Gidara Energy and the Port of Rotterdam announced Gidara’s next advanced biofuels facility in The Netherlands: Advanced Methanol Rotterdam (“AMR”). Located in the Port of Rotterdam, the plant will convert non-recyclable waste into advanced methanol. The advanced methanol achieves CO₂ emission reductions outlined in the Renewable Energy Directive II (RED II) and Fit-for-55 frameworks. This renewable fuel will replace fossil fuels, creating significant carbon savings. The Port of Rotterdam Authority has provided a unique site located in the port for this facility. Advanced Methanol Rotterdam will achieve a reduction of 350,000 tons of carbon dioxide equivalents (CO₂eq) of greenhouse gas (GHG) emissions per year, producing approximately 90,000 tons of renewable methanol yearly by converting 180,000 tons of local non-recyclable waste that is currently being incinerated.

All side streams of the conversion process at the AMR facility will be put to use so that the CO₂ will be captured and led to local greenhouses; bottom product residue will be used for cement production; other streams like ammonia and salts will be sold, and put to use as feedstock for other industries and road salt respectively, creating a circular concept. The facility is scheduled to start detail engineering and construction in the first half of 2023 when a permit is received and start production of renewable methanol in 2025.

A GHG EMISSIONS MANAGEMENT TOOL TO TRACK ACCURATE CO₂ EMISSIONS

ClassNK has released “ClassNK ZETA (Zero Emission Transition Accelerator),” a GHG emissions management tool to track accurate CO₂ emissions and confirm and simulate CII ratings. While the shift toward a zero-emission society has accelerated worldwide, the time has come for the maritime industry to systematically plan, manage, and report the GHG emissions from shipping. ClassNK ZETA developed as part of the services is a tool for visualizing CO₂ emissions from ships, linked with the “ClassNK MRV Portal” supporting compliance to MRV schemes such as IMO DCS and EU-MRV regulations. Users of MRV Portal can utilize the following four features without preparing additional data.
Vessel Monitoring: Displays CO₂ emissions, CII rating, etc., of individual ships without delay. Users can also check the estimated annual CO₂ emissions and CII ratings based on the current operation status at any time and consider any necessary measures. 

Fleet Monitoring: Displays CO₂ emissions and CII ratings of the entire fleet for each company or team in charge without delay. It makes it possible to check the CO₂ emissions of the fleet and the progress of the company's overall CO₂ reduction targets at any time.

Simulation: Simulates the changes in CO₂ emissions and CII ratings for an individual ship or fleet that would be seen by slow steaming, installing energy-saving devices, or switching fuels. Various simulations enable users to consider measures for reducing CO₂ emissions.

Periodical Report: Outputs CO₂ emissions by ship, fleet, voyage, etc. In the future, it will also allow users to meet the reporting needs of various stakeholders, such as financial institutions, cargo owners, and insurance companies.

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A GROUNDBREAKING FUEL CELL SYSTEM FOR SHIPS

Corvus Energy has received Approval in Principle (AiP) by DNV for its Hydrogen Fuel Cell System developed through the H2NOR project. This is the first fuel cell system (FCS) designed to be inherently gas safe, meaning that the surrounding machinery space will be considered gas safe under all conditions. This design significantly reduces the number of safety and ventilation support systems requirements, thereby enabling a more efficient integration onboard the ship.

The Corvus Fuel Cell System can serve as the main power source or additional power source to increase fuel flexibility onboard. With water being the only exhaust, the Corvus Fuel Cell will allow a ship to operate in any harbor and protected area today and in the future.

The solution is being developed by the H2NOR project, a consortium coordinated by Corvus together with partners Toyota Motor Europe, Equinor, shipowners Norled and Wilhelmsen, ship design company LMG Marin, the NCE Maritime CleanTech cluster, and the University of South-Eastern Norway’s (USN) R&D. The project will develop and produce modularized and cost-effective PEM fuel cell systems for the international marine market.

The project has received EUR 5.9 m in funding from state agency Innovation Norway and The Research Council of Norway, bolstering Corvus' front-runner position in clean technology.

H2NOR is scheduled to showcase its first marine fuel cell system onboard sailings pilots in 2023, which will take place alongside marine type approval of the product. The product will be commercially available from 2024, resulting in the expansion of the Corvus factories that will manufacture world-leading marine battery and fuel cell systems for all types of commercial marine vessels.

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EGYPT: THE NEXT MAJOR GREEN HYDROGEN PRODUCTION HUB

Masdar, one of the world’s leading renewable energy companies, and Hassan Allam Utilities, the investment and development arm of Hassan Allam Holding Group, recently announced they had signed two Memorandums of Understanding with leading Egyptian state-backed organizations to cooperate on the development of green hydrogen production plants in the Suez Canal Economic Zone and on the Mediterranean coast.

Masdar and Hassan Allam Utilities see Egypt as a hub for green hydrogen production, targeting the bunkering market, exporting to Europe, and boosting the local industry. Egypt enjoys abundant solar and wind resources that allow renewable power generation at a highly competitive cost—a key enabler for green hydrogen production. Egypt is also located within close proximity to markets where demand for green hydrogen is expected to grow the most, providing a robust opportunity for export, driven by green hydrogen’s export potential, its ability to attract large-scale foreign direct investment, and opportunities to contribute to the Government’s efforts to optimize generation costs and increase the share of renewables in the country’s energy mix to 42 percent by 2030.
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A RETROSPECTIVE REVIEW OF KEY ISSUES & EVENTS AFFECTING LOAN DOCUMENTATION

The ship financier and owner of the ’80s would certainly be taken aback by the loan agreement of year 2020, often spanning over 250 pages and tackling in detail a range of issues which would not have been a concern a few decades ago. In this article, I look back at the events and issues which have marked a change in the lenders’ requirements and by extension, changes to the content (and length!) of a typical loan agreement.

Shipping finance has always been inexorably linked to the underlying owner/financier relationship. Trust between the parties is an absolute requirement in addition to what is put down on paper. However, what people often refer to as “name lending” (i.e. advancing a loan to a company on the back of its reputation) has, over the years, had to be aligned with increasing internal risk and compliance requirements on the banks’ side, which have to be reflected in the documentation by a suite of provisions:

First, the loan agreement will make the well-known “know-your-customer” (“KYC”) requirements one of the key conditions to the facility being made available (with close to zero tolerance for waivers) and there will also be an ongoing obligation on the borrower to provide KYC documentation at any point in the life of the loan (either for themselves or potential lenders and sub-participants). This ensures that the lender’s counterparty is, at all times, one which is acceptable to the lender in all respects. These provisions will be reinforced by a range of anti-bribery and anti-money laundering provisions which the borrower will need to comply with; and

Secondly, while the counterparty may be well known to the lender, the facility documentation will certainly need to specify the individuals holding shares in and control over the borrower/guarantor (and in the Greek market, often the manager also). Such persons will then need to be ring-fenced in the loan agreement as transfers to other non-approved persons will be prohibited. Breach of such (so called “Change of Control”) provisions will either be an event of default or a mandatory prepayment event. However, the parties may agree with the lender, from the start, which other individuals are allowed to have control of or shares in the company in the future - particularly in the typical family owned business structure we see in the Greek market. Such carve outs will often be welcomed by the lender as well defined succession plans but the exact parameters will be carefully reviewed before being signed off. These matters are so crucial that they will invariably be a key term from term sheet stage.

Additionally, in the past decade we have seen significant resistance from financiers to finance ships which do not fall under a “group structure”. It was common in the 80s for ships to be
owned by a "special purpose vehicle" ("SPV") which was directly owned by the relevant individual and had no corporate connection to the rest of the fleet owned by such individual. It later became more common –largely due to lenders’ preference for fleet vessels (or at least some of them, often categorised by vessel type) to be directly owned by a common parent entity.

This lender requirement has also had significant impact on the documentation which will contain provisions such as:

- a requirement for a corporate rather than a personal guarantee which 15 years ago was very common in the security package;
- a requirement for audited group financial statements and the specifics of them (rather than the simpler "combined" accounts which a couple of decades ago were the norm); and
- a range of clauses capturing not only the mortgaged ships but also other "fleet vessels" as well as other "group members" i.e. affiliates of the borrower/guarantor. This will have repercussions on matters such as cross default provisions so will often be a matter that the borrower will want to restrict in the negotiations.

As both lenders and shipping companies became more sophisticated in their approach to shipping finance, using hedging became a key tool for both parties as a means of managing volatility. In fact, nowadays, entering into a hedging agreement (but not the swap itself) will be a compulsory term of the facility becoming available. This is also a development which affects the loan agreement quite heavily as it needs to provide for the interface between the two agreements (namely the loan agreement and the hedging agreement). Hedging related provisions are broad ranging, particularly in syndicated facilities where the rights of the hedging providers will need to be clearly defined and differentiated from those of the lenders.

In 1996, the banks which formed The Loan Market Association ("LMA") may have not predicted at the time the impact that they would have on the documentation of loan agreements in the future. The precedent loan agreements which they have published for investment grade and leveraged financings generally, have set a market standard which banks nowadays invariably want to follow – this trend having started about 10 years ago. This in turn has led law firms to adapt their shipping facilities to the LMA format with the deviations /
additional provisions required for the shipping industry specifically, leading to a standardization of such facilities across the board. This development arguably makes it easier for a financier who does not specialise in shipping to enter the shipping market as it provides comfort in relation to the terms of the relationship. Another development of the past decade has been to “beef up” loan agreements (especially USD denominated ones) to cater for the lenders’ sanctions related provisions. These will appear in a number of sections of the loan agreement with a view of ensuring that lenders do not become liable under the sanctions restrictions which they are subject to, by reason of advancing or maintaining the relevant loan.

In June 2019, the Poseidon Principles were launched with a view to making climate considerations a part of ship financiers’ lending decisions. Only two years down the line, they are increasingly prevalent in the documentation we prepare and constitute only one of the environmental related provisions that our bank clients are asking to see in the loan agreement.

The COVID pandemic of 2020, among the unprecedented disruptions it caused, required shipping finance lawyers to consider issues and adapt the documentation and processes to the new reality of virtual signings and electronic signatures among others, propelling the market forward in the use of technology - perhaps a precursor of other significant changes that technology will bring to the legal landscape. Finally, in March 2021, the IBA and FCA announced the long expected cessation of LIBOR dates, paving the way for the replacement of the LIBOR framework that lenders and companies were so familiar with, with new replacement rates. We are now seeing the full impact of that with existing facilities needing to be amended to reflect the relevant replacement rates and parties familiarizing themselves with the viable alternatives and specifics of such rates (namely Term SOFR and Compounded SOFR for USD facilities).

It therefore becomes apparent that in more recent years, the ship finance documentation has become much more sophisticated and sensitive to market triggers/events. For instance, the 2021 Revlon case quickly translated into an “erroneous payments” clause by the LMA which ship financiers are increasingly picking up and on a more general note, the content of loan agreements is constantly updated and refined. This trend is aligned with the finance market at large and will no doubt continue. More sophisticated contracts (in this case facility agreements) are a positive change for the industry - they provide increased safety and certainty for both counterparties, creating a solid foundation for the availability of shipping facilities.

As both lenders and shipping companies became more sophisticated in their approach to shipping finance, using hedging became a key tool for both parties as a means of managing volatility.
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Shaping a better maritime world.
In June 2021, the Marine Environment Protection Committee (MEPC 76) adopted some new amendments to the International Convention for the Prevention of Pollution from Ships (MARPOL) Annex VI that will require existing ships to reduce their greenhouse gas emissions. As a result, the Energy Efficiency Design Index for existing ships (EEXI) was introduced, which will enter into force in 2023 and apply to all vessels above 400 GT falling under MARPOL Annex VI. The EEXI is a technical design-related index that measures CO₂ emissions per transport work and constitutes a short time measure introduced by IMO to reduce the greenhouse gas emissions of existing vessels. In order to achieve compliance with the EEXI requirements, all existing ships must fall below a specific limit of CO₂ emissions per cargo capacity by applying technical measures to improve their energy efficiency and then establish their annual operational carbon intensity indicator (CII) and CII rating, which addresses vessel’s actual emissions during operation.

As of now, the easiest way to achieve compliance with the EEXI requirements seems to be the limitation of the vessel’s engine power since fuel consumption and, as a result, produced emissions increase as the vessel’s sailing speed increases. However, reducing the engine’s maximum power could become a headache for some owners. Such a reduction in the sailing speeds will make their vessels less commercially competitive than newer and more efficient vessels entering the market. Owing to the continuous technological advancements of the last years, shipowners also have a wide variety of other...
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clean technologies to choose from to improve the environmental performance of their vessels, such as rotor sails, air lubrication systems, batteries, and alternative fuels. However, such solutions usually require substantial investments and may not be financially feasible for older vessels, as their commercial life may end before the investment’s payback time.

While most owners are currently trying to figure out immediate solutions for complying with the EEXI requirements for their existing fleet, at the same time, the whole shipping community is also trying to expedite the energy transition of the maritime sector in order to achieve the long-term environmental goals of the IMO. In recent years, an increasing number of companies have turned their attention to alternative maritime fuels, investing in research programs and ordering newbuilds that can either run on alternative fuels or are ready to be retrofitted in the future to switch to environmentally friendlier fuels such as LNG, ammonia, methanol, and hydrogen.

Other owners have decided to examine the potential of biofuels in shipping as a plug-in solution that requires zero investment and can enter the global market relatively quickly, thus assisting owners in achieving the IMO GHG reduction targets in the short and long term. Biodiesel (FAME), for example, is an alternative renewable fuel produced mainly from recycled cooking oils and renewable oil sources that has physical properties similar to conventional diesel and is also non-toxic and biodegradable. The latest trials of biofuels on vessels have shown they can be used without changing the specifications of conventional diesel-powered marine engines. They comply with SOx regulations as they contain no sulfur and achieve a carbon-neutral state, as the CO₂ they emit during the combustion stage is absorbed during the growth process of the feedstock used for their production. Two crucial, however, issues that obstruct the wide adoption of biofuels in the maritime sector are their current limited supply and their high cost. These issues have to be resolved before they can be introduced in the international shipping sector on a larger scale.

Overall, a lot of work has already been done in the direction of developing new technological solutions for the decarbonisation of the shipping industry. Owners, shipyards, engine makers, and classification societies are implementing numerous joint programmes to expedite the development of the technology required for the energy transition of the sector. Finally, although it seems that owners have many different solutions to choose from today to reduce their fleet’s carbon footprint and achieve compliance with the upcoming environmental regulations, the fact that each one of these solutions is either an alternative fuel or an emission reduction technology that comes with some limitations together with its advantages, indicates that for the moment it remains unclear which of them is going to prevail in the long run.
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DOWNWARD TREND IN OIL DEMAND
Severe new lockdown measures amid surging Covid cases in China have led to a downward revision in IEA's (International Energy Agency) expectations for global oil demand in 2Q22 and the year as a whole. Weaker-than-expected demand in OECD countries at the start of the year added to the decline. As a result, the IEA's estimate for global oil demand has been lowered by 260 kb/d for the year versus last month's Report, and demand is now expected to average 99.4 mb/d in 2022, up by 1.9 mb/d from 2021. At the same time, based on OPEC's April report, global oil demand for 2022 is expected to increase by 3.67 million barrels per day annually. OPEC's estimate is reduced by 480,000 barrels/day compared to March. Further estimations point out that global oil consumption will surpass the 100 mb per day mark in the third quarter of 2022, which means that global oil consumption is due to return to pre-pandemic levels from September onwards.

EUROPEAN PLAN TO CURTAIL RELIANCE ON RUSSIAN ENERGY
The European Commissioner for Economic Affairs Paolo Gentiloni has announced that the European Union aims to reduce oil and gas imports from Russia by two-thirds by the end of the year and ultimately end its reliance on Russian energy by the end of 2027. In an interview with the Italian newspaper Il Messaggero, Gentiloni pointed out that the EU will revise downward its 2022 growth estimates from the previous target of 4%. However, he added that it was too early to assess whether restricting growth would lead to economic stagnation.

NATURAL GAS: THE IMPRESSIVE ESTIMATED DYNAMICS OF GREECE
Recent developments in the Greek energy market aim to make the country a hub of natural gas trade for the Mediterranean. In this context, Greece's potential natural gas reserves offer further support to its positive outlook. Greece may have about 600 billion sq.m. of recoverable natural gas reserves, according to a statement by Aristofanis Stefanos, CEO of the Hellenic Hydrocarbon Resources Management S.A. Greece's interest is mainly focused on natural gas and not oil. After all, Athens has made it clear that the goal is an energy equation where renewable energy sources play a leading role. Therefore, amid the energy crisis, as European Union
countries seek to end their reliance on Russia, gas is a more attractive alternative to oil. Meanwhile, on Thursday, 14 April, Russian President Vladimir Putin stated during a government meeting that Moscow would redirect its energy resources eastward as European countries try to reduce their reliance on Russian exports.

“By talking about cutting off energy supplies from Russia, European Union countries are driving up prices and destabilizing the market,” Putin said. The Russian president also said that Russia would have to start building infrastructure for oil and gas exports to the east as it needs to diversify its energy supply away from Europe.

GLOBAL ENERGY SECURITY COSTS REACH $1.3 TRILLION
The unfolding energy crisis is plaguing the global economy, with inflationary pressures weakening citizens’ purchasing power. In this context, and as the current fundamentals do not inspire optimism focused on energy prices, JP Morgan has announced its estimates of the necessary investments in the energy sector by 2030 to avoid an impending energy shortage.

JP Morgan argues that it is necessary to make investments of $1.3 trillion within the next eight years. These investments will cover all energy sources such as renewables, nuclear energy, and even gas and oil. As JP Morgan analysts have pointed out, energy demand in 2030 will exceed supply by about 20% based on current trends. Emerging economies will be at the heart of the impending imbalance between supply and demand.

On the other hand, according to a Reuters report, the International Energy Agency (IEA) had argued in a recent report that no new investments were needed in fossil fuel projects. However, since then, the IEA has explained that this statement concerned only one of the possible scenarios.

THE US LAUNCHES A $6 BILLION NUCLEAR PROGRAM
Amid the global energy crisis, many economies are trying to find ways to diversify their energy portfolio. Some of them, such as France and Japan, are also turning to nuclear energy or expressing such aspirations because of its benefits in terms of greenhouse gas emissions and autonomy. In addition, other countries, such as the United States, are considering ways to keep economically viable nuclear power plants up and running.

In particular, the US Department of Energy is promoting a program totaling $6 billion, under which nuclear power plants that are in danger of shutting down will eventually remain in operation. This program aims to protect nuclear power generation, which has become economically uncompetitive.
compared to other forms of electricity generation. It is noted that the US has 93 nuclear reactors that produce about 20% of the electricity consumed annually. Moreover, these nuclear reactors provide more zero-emission electricity than all the renewable sources available to the United States combined. Washington has stressed the need to maintain US nuclear reactors aligned with its ambitious environmental goals, such as a zero-carbon grid by 2035 and a neutral economy by 2050.

**GROWING INTEREST IN NEXT-GENERATION CLEAN ENERGY TECHNOLOGIES**

Activity is heating up in next-generation technologies as renewable energy industry stakeholders are considering investments in them, which can eventually help integrate variable renewables such as wind and solar into the electric grid with more confidence, says Deloitte US in a recent report. For an industry that focuses mainly on solar and wind, private investment and pilot projects combined with federal research support could help expedite the commercialization of emerging technologies such as green hydrogen, advanced batteries, and other forms of long-duration storage. These technologies can provide zero-carbon electricity and longer-term seasonal electricity storage, ease grid congestion, stem renewable curtailment, boost reliability, and facilitate the integration of solar and wind into the grid while supporting 100% clean energy goals. According to Deloitte US, a major driving force behind the rise of green hydrogen has been the decreasing costs of renewable energy—a critical input in the production process. In 2022, as renewable energy penetration on the grid increases, green hydrogen development is also expected to grow, owing to its potential to act as long-duration and seasonal storage of fuel available on-demand to generate power. The recently approved IIJA (Infrastructure Investment and Jobs Act) allocates $9.5 billion for clean hydrogen projects and proposes regional clean hydrogen hubs to expand hydrogen infrastructure. The BBB Reconciliation Act considered in Congress includes a hydrogen tax credit and would likely encourage the technology’s growth if passed. Launched recently, the US Department of Energy’s (DOE) “Energy Earthshots” initiative aims to reduce the costs of green hydrogen and long-duration energy storage by 80% and 90%, respectively, by 2030.

**DYNAGAS LTD. AND UNIPER FACILITATED THE CHARTER OF TWO FSRUs FOR GERMANY**

Dynagas Ltd. founder & Chairman Mr. George Procopiou: “We are very pleased to conclude this transaction with the German government and Uniper. We have long been advocating for European countries to develop LNG import infrastructure to diversify their sources of supply of natural gas.”

Uniper has facilitated the charter of two FSRUs managed by Dynagas Ltd. to the German government to diversify and strengthen the security of gas supply to Germany. The FSRUs Transgas Force and Transgas Power, built in 2021, are amongst the most modern, safe and environmentally friendly of their kind with a total natural gas-send-out capacity of up to 7.5 bcm/a and an LNG storage capacity of 174,000 m³ each. The combined capacity is equivalent to approximately 30% of Russian gas imports into Germany. The FSRUs will commence their service early 2023 with first gas send-out depending on the completion of the onshore installations at the sites selected by the German government. Dynagas Ltd. founder & Chairman Mr. George Procopiou: “We are very pleased to conclude this transaction with the German government and Uniper. We have long been advocating for European countries to develop LNG import infrastructure to diversify their sources of supply of natural gas.”
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KPI OceanConnect’s Managing Director presents his views on the future challenges facing the bunkering industry and the green transition of shipping. Mr. Manassakis also talks about his company’s presence in Greece and its corporate culture.

**A NOT TO BE MISSED OPPORTUNITY FOR THE BUNKERING INDUSTRY TO DRIVE THE GREEN TRANSITION**

What are your comments on the presence of KPI OceanConnect in Greece? How important is it for a company like KPI OceanConnect to be at the “heart” of ship management and ownership?

Greece has a long-standing tradition of being a leading centre for shipping. We have always had strong relationships with the Greek shipping community through our North Europe and USA offices. But having a physical presence in Greece has helped the move from a client-vendor relationship to a partner relationship with our customers. We opened our office in 2015, and since then, we have continued growing and expanding to become one of the key players in the local bunker market.

KPI OceanConnect follows a “people-first” approach. How important is this approach to the employees of a company today? Does KPI OceanConnect promote concepts like inclusion and diversity in the workplace?

We have a primary focus on diversity and inclusion in our organisation. Research from our recent Women in Shipping initiative demonstrates how an inclusive and supportive organisation can drive innovation and dynamic thinking, which, in turn, stimulates work environments and empowers change. Multiple measures are already underway to enhance employees’

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**Mr. Michalis Manassakis,**
Managing Director of KPI OceanConnect, talks to
Giannis Theodoropoulos
In recent years, the shipping industry has been subject to many regulations to reduce its environmental impact. What alternative fuels do you think will prevail in the industry over the coming years? What alternative fuels do you think will prevail in the industry over the coming years?

With the momentum growing in the industry as we approach 2030 and 2050, it is crucial to recognise that our customers’ needs are evolving. We want to ensure they have support every step of the way, whether they decide to bunker biofuels, methanol, ammonia, LNG, or anything else. It is also essential that we work closely with our clients to maximise their efficiencies and provide them with a 360-degree service to ensure they have access to the right fuel at the right quality, wherever and whenever they need it. We were one of the first marine fuels companies to establish an Alternative Fuels and Special Projects division. Our deep understanding of the market and our innovative focus identified a need for this new function, which will drive environmental and sustainability change throughout our clients’ marine fuel supply chains.

I am confident that as a global organisation, we can guide our partners towards a sustainable future. We are well prepared to advise on obtaining carbon-neutral fuel supplies and offsetting traditional marine fuel emissions and their vessels’ cargoes. Our response to the SECA and IMO 2020 regulatory changes demonstrated that we could successfully navigate customers through market transformations. We will continue to find the best pathways for our clients through change.

Given the urgent need for the world to transition away from fossil fuels, what approaches must the industry adopt? What role can the bunker industry play under these new circumstances?

As we look to the future of the marine energy mix, there is no single pathway to decarbonisation. There will be a mixture of solutions, including carbon offsetting alongside alternative fuels. The bunkering industry has a crucial role to play in facilitating carbon offsetting. KPI Ocean Connect was one of the first marine energy companies to complete a carbon-neutral fuel supply and deliver the first carbon offsets for a client. We have committed to being an agile and innovative partner while also leading on the path to a more sustainable sector.

Carbon offsetting is increasing in popularity as a means for shipping companies to reduce their net emissions, especially while the industry awaits fully zero-carbon fuel technologies. Carbon offsetting is a “now” and “then” strategy because it supports the scale-up of renewable energy projects that can lead to the production of zero-carbon fuels.

It is vital for our organization to remain agile and at the forefront of our sector to ensure we provide the right marine energy products to our clients now and in the future.

How will the energy crisis and consequent inflationary pressures affect the bunkering industry?

The war in Ukraine is undoubtedly causing an energy crisis that is being felt in the marine fuel supply chain. Volatile prices are a particular consequence that affects the bunkering industry and its customers. It is essential that fuel buyers have a trusted partner with the experience, strong financial backing, and track record to guide them through a challenging marketplace. In the longer term, we see an opportunity in the bunkering industry to drive the green transition. Embracing innovation and sustainability through a step-by-step approach will help deliver decarbonisation and offer ways to tackle volatile prices.

For us, the critical question concerning marine energy is infrastructure. Building the infrastructure at scale for alternative fuels will be hard, and it will be many years – if at all – before there is a clear winner. When our clients think about their fuel procurement strategy for the future, we are their go-to partner. Our financial stability gives us a platform to partner with reputable clients and suppliers worldwide to support the energy transition in shipping.
ABOUT US

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COMMODITIES

Edited by:
Giannis Theodoropoulos,
Manos Charitos

AN INSIGHT FOR SUPPLY AND DEMAND TRENDS

DRY BULK CARGOES

COAL

World Bank: Prices to average just over 80 percent higher in 2022
In its latest Commodity Markets Outlook, the World Bank notes that energy prices have increased sharply since the start of the year, with broad-based increases across all fuels; some coal and natural gas benchmarks reached all-time highs in March. The World Bank forecasts that energy and non-energy prices will rise by 50 and 20 percent in 2022, respectively, before pulling back somewhat in 2023 and settling at much higher levels than in the previous forecast. Coal prices are forecast to average just over 80 percent higher in 2022 relative to 2021, according to the World Bank’s estimates. The European Union has announced a ban on coal imports from Russia (starting in August 2022).

India turning to imports from Russia
Although the war in Ukraine has intensified and Western countries have tightened the stranglehold on Russia through sanctions, Moscow is unexpectedly finding energy-focused allies. China and India are two such examples. In addition, the latter bought Russian oil recently at a much lower price than the international price. India is currently in talks with Russia about increasing Russian coal imports. Characteristically, last March, the Asian country imported larger quantities of coal from Russia than it has done for the past two years. India’s Russian coal imports reached 1.04 million tonnes, the highest since January 2020, according to Kpler data. International analysts speculate that China and India will boost coal imports from Russia, offsetting the impact on Moscow of the EU’s recent decision to impose an embargo on Russian coal. The EU imposed an import ban on coal from Russia even though there is already a limited supply of coal. At the same time, as demand in Asia is growing due to the reluctance to import more expensive LNG, coal prices have risen.

IRON ORE-STEEL

Considerable challenges for the iron ore market
Rio Tinto sounded the alarm for the iron ore market in its financial results report. On Wednesday, April 20, Rio Tinto reported lower-than-expected iron ore exports in the first quarter of 2022. The world’s largest iron ore producer exported 71.5 million tonnes in the first quarter compared to 77.8 million tonnes exported in the corresponding period of 2021. Initial estimates put exports at around 76 million tonnes. At the same time, production moved to 71.7 million tonnes, recording a decline of 6.2% on an annual basis and 15% compared to the fourth quarter of 2021. 2022 started with the best omens for the market, as the post-pandemic
economic recovery boosted demand. However, the Russian invasion, the consequent inflation, and the increase of Covid cases in China have drastically changed the conditions in the iron ore market, Rio Tinto noted in the report. It is noted that Rio Tinto, which owns 80% of the Queensland Alumina Ltd. (QAL) joint venture with Rusal, was the first mining company to announce that it had stopped all business in Russia.

The short-term outlook for steel production
The World Steel Association (worldsteel) recently released its Short-Range Outlook (SRO) for 2022 and 2023. Worldsteel forecasts that steel demand will grow by 0.4% in 2022 to reach 1,840.2 Mt after increasing by 2.7% in 2021. In 2023 steel demand will see further growth of 2.2% to reach 1,881.4 Mt. The current forecast is made against the backdrop of the war in Ukraine and is subject to high uncertainty. The magnitude of the impact of this conflict will vary across regions, depending on their direct trade and financial exposure to Russia and Ukraine. There is an immediate devastating effect on Ukraine, consequences for Russia, and a major impact on the EU due to its reliance on Russian energy and geographic proximity to the conflict area. The impact will also be felt globally via higher energy and commodity prices, especially raw materials for steel production, and continued supply chain disruptions troubling the global steel industry even before the war. Furthermore, financial market volatility and heightened uncertainty will undermine investment.

Such global spillovers from the war in Ukraine, along with low growth in China, point to reduced growth expectations for global steel demand in 2022. There are additional downside risks from the continued surge in virus infections in some parts of the world, especially China, and rising interest rates. The expected tightening of US monetary policies will hurt financially vulnerable emerging economies.

The outlook for 2023 is highly uncertain. The forecast assumes that the confrontation in Ukraine will come to an end in the course of 2022 but that the sanctions on Russia will largely remain. Additionally, the geopolitical situation surrounding Ukraine poses significant long-term implications for the global steel industry. Among them are a possible readjustment in global trade flows, a shift in energy trade and its impact on energy transitions, and continued reconfiguration of global supply chains.

Chinese steel demand saw a major slowdown in 2021 due to the harsh government measures on real estate developers. Steel demand in 2022 will remain flat as the government tries to boost infrastructure investment and stabilise the real estate market. The stimuli introduced in 2022 are likely to support small positive growth in steel demand in 2023. There is upside potential from more substantial stimulus measures, which is likely if the economy faces more challenges from the deteriorating external environment.
The latest forecasts on global production, consumption, and trade

The US Department of Agriculture (USDA) recently published its monthly "World Agricultural Supply and Demand Estimates" report for April. The global wheat outlook for 2021/22 is for slightly higher supplies, increased consumption, lower trade, and reduced ending stocks. Supplies are increased by 0.7 million tonnes to 1,069.5 million on a combination of higher beginning stocks for Pakistan, Brazil, and Saudi Arabia and higher production for Pakistan and Argentina, more than offsetting lower EU production. Projected 2021/22 world consumption is raised 3.8 million tonnes to 791.1 million primarily on higher food, seed, and industrial (FSI) use for India. Projected 2021/22 global trade is lowered by 3.0 million tonnes to 200.1 million as lower exports by the EU, Ukraine, the United States, and Kazakhstan are not entirely offset by higher exports by Russia, Brazil, and Argentina. EU exports are reduced by 3.5 million tonnes to 34.0 million on a lower-than-expected pace. Russia's exports are raised by 1.0 million tons to 33.0 million as it continues to export at competitive prices. Ukraine's exports are lowered by 1.0 million tonnes to 19.0 million as its Black Sea ports remain closed since the invasion by Russia in February. The majority of Ukraine's exports have already been shipped, with limited additional amounts expected for the remainder of 2021/22. Projected 2021/22 world ending stocks are lowered by 3.1 million tonnes to 278.4 million, with India accounting for most of the reduction, which is only partially offset by higher EU stocks. Global stocks are projected at a 5-year low.

EU: Downtrend forecast for the 2022/2023 harvest

The European Commission downgraded its forecast for the 2022/23 European Union wheat harvest. On the other hand, it has maintained its projection for record EU exports as war disrupts supply from Ukraine. In monthly cereal supply and demand estimates, the Commission cut its outlook for soft wheat in the 2022/23 season to 130.1 million tonnes from 131.3 million tonnes previously. Regarding the EU soft wheat exports, the Commission kept its forecast at 40 million tonnes, an all-time high for the bloc. However, the Commission increased its projection of EU soft wheat stocks by the end of 2022/23 to 12.6 million tonnes from 12.2 million a month ago, reflecting an upward revision to expected supply this season.

International Grains Council: The latest output projection

Almost entirely because of a revised estimate for Brazil's maize crop, the International Grains Council's forecast on total global grains (wheat and coarse grains) production for 2021/22 is raised by 3m t m/m (month-on-month) to 2,287m, an increase of 3% y/y (year-on-year). Global consumption is placed 4m t higher m/m, leaving cumulative world ending stocks (aggregate of respective local marketing years) 1m lower than before. Reflecting downgrades for southern hemisphere producers, 2021/22 global soybean output is seen marginally lower m/m, at 349m t (-5% y/y). With the figure for utilisation cut further, the outlook for inventories is uprated, albeit still equating to a sharp y/y fall. With evidence of a marked slowing of Brazilian dispatches, trade is forecast 4m t lower m/m, at 155m (-3%). Linked to expectations for a rebound in the three majors, 2022/23 world production is seen rising by 10% y/y, with uptake and stocks also expected to expand. Trade is projected to increase by 7% y/y.

China aims to increase domestic production

According to Ministry of Agriculture officials, China's domestic soybean production will increase by 25.8% this year as Beijing steps up its efforts for food self-sufficiency. Chinese production this year will reach 20.63 million tonnes if estimates are confirmed, while at the same time, arable land will increase by 16.7%. Last year, Chinese farmers produced 16.4 million tonnes of soybeans. Beijing's goal is to increase domestic production to 23 million tonnes by 2025 to meet a big part of its food needs without being so heavily dependent on imports, which this year are estimated at 95.07 million tonnes. Its food needs without being so heavily dependent on imports, which this year are estimated at 95.07 million tonnes.
A. M. Nomikos
Transworld Maritime Agencies S.A.
**CRUDE OIL**

**IEA: Demand and output to bring the market back to balance**

Global oil inventories have decreased for 14 consecutive months, with February stocks 714 mb below the end-2020 level and OECD countries accounting for 70% of the decline, says the International Energy Agency in its Oil Market Report for April. In February, OECD total industry stocks fell by 42.2 mb to 2,611 mb, nearly double the seasonal trend. Preliminary data show a build in OECD industry stocks of 8.8 mb for March. Global refinery throughputs are forecast to increase by 4.4 mb/d from April to August due to new capacity and normal seasonal gains. That would allow product inventories to see the first build in two years, offering some respite to the tight market. Overall, 2022 runs are forecast to gain 3 mb/d y-o-y but will remain below 2017 levels.

Russian oil supply and exports continue to fall. The IEA assumes from May onwards, close to 3 mb/d of Russian production could be offline due to international sanctions and as the impact of a widening customer-driven embargo comes into full force. The stringent lockdowns in China have led the IEA to further revise down its estimate for oil demand in Q22 and the year as a whole. In addition, more complete demand data for Q22, especially in the US, was sharply lower than preliminary estimates. As a result, global oil demand has been reduced by 260 kb/d for 2022 and is now forecast to average 99.4 mb/d, up by 1.9 mb/d from 2021.

Lower demand expectations and steady output increases from Middle East OPEC+ members, along with the US and other countries outside the OPEC+ alliance, should bring the market back to balance, notes the IEA.

**Market giants’ eyes on Brazil**

Oil market giants are making new investments focused on expanding their portfolios. Two such cases are Shell and Total, which acquired shares in Brazil’s Atapu oil and gas field.

Shell’s subsidiary, Shell Brasil Petróleo, acquired a 25% stake in the Atapu field for $1.1 billion, a deep-water oil and natural gas field in the Santos Basin, the company announced. At the same time, TotalEnergies acquired a 22.5% stake against $950 million. Following these moves, Petrobras maintains a majority stake of 52.5%. It is noted that the production of oil in the Atapu field started in 2020 and currently amounts to about 160,000 barrels of oil equivalent (boe) per day.

Shell stressed in a statement that the investment reflects its commitment to strengthening its position in Brazil while supporting its aspirations to secure the energy resources needed to meet growing global demand.

At the same time, Total is intensifying its presence in the USA, particularly in the renewable energy industry, through the acquisition of the company Core Solar. This investment brings Total’s RES project portfolio to over 10 GW in the US. Evidently, Total’s short and long-term strategy is focused on energy security.

**The impact of the war in Ukraine on prices**

The war in Ukraine has caused significant supply disruptions and led to historically higher prices for a number of commodities. For most commodities, prices are expected to be significantly higher in 2022 than in 2021 and to remain high in the medium term. In this...
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context, World Bank estimates that the price of Brent crude will average $100/bbl in 2022, a 42 percent increase from 2021 and its highest level since 2013. World Bank also notes that Russia’s energy exports are expected to be severely disrupted as many countries seek alternative suppliers. However, the declining supply from Russia is being partially offset by inventory releases and diversion of exports to other countries. Prices are expected to average $92/bbl in 2023 as supply disruptions ease and production rises outside Russia, while demand is likely to grow more slowly than previously expected. The disruptions resulting from the war are likely to have a lasting impact on Russia’s oil production due to the exit of foreign oil companies, weaker investment, and reduced access to foreign technology.

Brent crude oil averaged $116/bbl in March 2022, a 55% increase compared with December 2021. After rising to a 10-year high in early March, it eased in April following announcements of significant releases of oil from strategic inventories by the United States and other International Energy Agency (IEA) members and expectations of weaker demand due to COVID-19-related lockdowns in several cities in China.

**Russia and China strengthen their ties**

China is the world’s largest importer of crude oil, and Russia is the second largest crude exporter. However, much of the crude oil trade between the two countries is piped, and the short distance from Far East Russia to China also limits the impact on demand for crude oil tankers, says BIMCO in a recent analysis. Still, a change in Russia to China dirty trade can potentially impact tanker tonne miles demand as it could come at the expense of longer trade lanes.

“Since Russia invaded Ukraine, Russia to China dirty tanker trade has soared 94% y/y measured in deadweight tonne miles,” says Niels Rasmussen, Chief Shipping Analyst at BIMCO, and adds: “This compares to a year-to-date increase of only 9% y/y prior to the invasion.”

In comparison, total dirty tanker deadweight tonne-miles exports from Russia, and imports to China, have risen 14% y/y and 4% y/y respectively since the invasion, highlighting how the Russia to China trade has increased in importance for both countries. Due to the demand spike in early 2020, which has not been repeated since it should be noted that YTD 2022 deadweight tonne miles are trailing 2020 by 20%.

“Accounting for 58% of the increase, it is particularly the relatively long Black Sea to China trade that has driven the overall increase in the post-invasion Russia to China dirty tanker trade,” said Niels Rasmussen. He added that “As deadweight tonne miles in the even longer Brazil to China trade has decreased 26% y/y during the same period, it appears that the shift in China’s import patterns has reduced average miles/tonne in the Chinese import trades which overall is a negative for the dirty tanker trade.”
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LIQUIFIED NATURAL GAS (LNG)

Germany: Fast-track procedures for the construction of new terminals
According to the German news agency Deutsche Presse-Agentur, the federal government is preparing legislation that will allow the acceleration of the construction of liquefied natural gas (LNG) terminals. According to the report, the Ministries of Economic, Environment, and Justice are working together to draft a law that will provide rapid approval procedures for establishing floating and inland LNG terminals in northern Germany. According to the same information, the plan is expected to be approved by the cabinet next Wednesday. "The law aims for all approval and licensing procedures and the award of public contracts and concessions to be done much faster than possible with the current legislation to achieve the fastest possible integration of LNG in the German market," a government document said. Approving authorities should be able to temporarily suspend environmental impact assessments under certain conditions and requirements, the document states. The recent cut-off of gas supplies to Poland and Bulgaria has raised concerns about a similar sudden decision about Germany. Chancellor Olaf Soltz warned a few days ago from Japan that Germany should be prepared for something similar, as "no one knows how the Kremlin leader will behave."

China: Currently the top importer
In 2021, China imported more liquefied natural gas (LNG) than any other country, according to data from Global Trade Tracker and China’s General Administration of Customs. Prior to 2021, Japan had been the world’s largest LNG importer for decades, according to data from Cedigaz. China’s LNG imports averaged 10.5 billion cubic feet per day (Bcf/d), a 19% increase compared with 2020. LNG imports accounted for more than half of China’s overall natural gas imports and 30% of China’s total natural gas supply in 2021. China began importing LNG in 2006 and, with the exception of 2015, has imported more LNG each year since then. China has rapidly expanded its LNG import capacity, estimated at 13.9 Bcf/d in 2021. By the end of 2022, China’s regasification capacity could increase by 2.8 Bcf/d to 16.7 Bcf/d, according to data by S&P Global Platts. In 2021, China imported LNG
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from 25 countries. The largest six suppliers—Australia, United States, Qatar, Malaysia, Indonesia, and Russia—provided 8.9 Bcf/d, or 85%, of China’s total LNG imports.

Since China lowered tariffs on LNG imports from the United States from 25% to 10% in 2019, US LNG exports to China have increased, and in 2021, they averaged 1.2 Bcf/d. The United States was the largest supplier of spot LNG volumes to China last year. In 2022 and 2023, several new long-term contracts between China and the United States are expected to start from the Sabine Pass and Corpus Christi terminals for a combined estimated volume of up to 0.5 Bcf/d. The new US LNG export terminal at Calcasieu Pass will supply China’s two national energy companies—Sinopec with 0.13 Bcf/d and CNOOC with 0.2 Bcf/d—starting next year.

Indonesia’s market dynamics
Natural gas has been gaining ground in recent years as countries worldwide have recognized its benefits in reducing their immediate environmental footprint. One of these countries is Indonesia.

Indonesia plays a vital role in the gas market, as it ranks 13th in the world in gas reserves, 8th in the world in export capacity (2021 data), and 7th in the world in terms of natural gas exports (2020 data). Indonesia consumes significant quantities of natural gas annually, most of which is used in electricity generation. As a developing country, Indonesia relies heavily on fossil fuels, which is not expected to change immediately, according to an AntaraNews article. However, a more extensive natural gas utilization can offer immediate environmental benefits and support the short and medium-term economy. In this light, Indonesia could further increase gas production. Such a development would also favor natural gas exports, especially LNG. Indonesia currently exports about a third of its annual natural gas production. If it increases its production, its exports are not expected to decrease; on the contrary, they may grow, favoring the LNG carrier market by increasing the transported volume and, consequently, tonne miles. In addition, the demand for LNG will continue to grow as Indonesia supplies market giants such as China, Japan, and South Korea.
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LNG MAKES CAPEX SENSE

by Lianghui Xia, Managing Director, (Oslo), Newport Shipping

With this in mind Newport Shipping has developed a portfolio of solutions for LNG retrofit designs for VLCC’s, Bulk Carriers and Containerships that will help shipowners realise those financial savings. LNG has the right characteristics as being the most practical choice for a marine fuel. There has been a strong trend in newbuild orders of LNG-fuelled vessels and retrofitting of existing fleet is the next step. We believe now is the right time for us to provide the market with our solution which is both cost effective and time efficient.

Shipowners also need technology that works and is reliable, along with minimal time and cost expense. Shipowners need a proven design that can meet the technical targets with minimum off-hire time during retrofitting, and competitive costing for both retrofit and operation afterwards. Our solution is tailor-made for such purposes.

Newport Shipping sees its target audience as one third of the global fleet for its retrofit designs, this also includes vessels that are LNG ready. Newport Shipping works in collaboration with 15 shipyards globally giving shipowners flexibility of booking their project when and where they need it. We have an in-house design team, on-site project execution team, access to global yard slots, we equipment-maker partners and long-term financing solutions to help shipowners with the retrofit project.

Newport Shipping received Approval-in-Principle from DNV for its VLCC and Bulk Carrier design last year. The concept is based on deck-mounted LNG tanks that can be installed without major modifications to the vessel hull, thereby reducing installation costs, as part of a retrofit solution using a dual-fuel engine that would be suitable for future use of carbon-neutral methane such as bio-LNG. In addition, Newport Shipping has recently received Approval-in-Principle from BV for its Containerized LNG design that features its latest E-nergy tank.

These containers are easy to use standard 40 feet containers with capability of using future fuels for the container industry. They are easily adaptive to container vessels and do not delay any container operations in the port while the vessels are loading and discharging in the port.

Whilst pressure may be on for the shipping industry to cut emissions there is also pressure from shipowners to save costs and invest in solutions not just for today but for the longer-term.

MARKET NEWS - Newport Shipping

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In our 20-year journey of working with shipping organisations all around the globe, what we have seen is the striving for safety excellence, an embedded value for many shipping companies. To excel in safety and achieve a strong and proactive safety culture requires us to look at our ways of thinking, reviewing, and evaluating our safety performance. Key Performance Indicators are used to show an aspect of safety performance, but when we talk to people, on board and ashore, we see a different picture.

TO EXCEL WE NEED TO EVALUATE, DISCUSS, AND IMPROVE

Continuous formal and informal performance reviews is an important prerequisite to ensure the safety performance both on-board and ashore.

What makes a performance review reliable? With our long experience in performance management and development, we have identified that a reliable performance review can be achieved by taking these guiding principles into consideration:

1. **Continuous reviews.** If we don’t review the performance on a continuous basis, we are not able to identify improvements. The value of performance reviews is multiple as they don’t only rely on the actual finding. Reviews benefit individuals and teams with the opportunity to reflect, discuss and learn. Unless this is done several times in a long-term time frame, people will forget.

2. **Firsthand experience.** The ones who are to evaluate the current safety performance must always be the seafarers themselves. On far too many occasions we see that office tries to control everything that happens on board, from the desks ashore. So, we must build an open and trusting working environment that lets the seafarers express their honest opinion about the present safety performance on board.

3. **Openness.** "To question oneself and others is the highest human excellence," said Socrates, so everyone must be prepared to accept review. We know from the SAFETY DELTA™ survey statistics that senior officers generally perceive the safety performance on board to be better than the junior officers and ratings. Having an open dialogue that involves all crew members and the leaders, is crucial.

4. **Capacity to adapt.** Finally, the basic condition for achieving a strong, proactive safety culture is to always think of and breathe for safety. Seafarers must be able to make the right judgements when they perform their work, and so shall the office staff. Even for routine tasks, every work situation is unique, so whenever a task is being performed the current situation to a large extent decides how it can be done at best; this puts demands on the way we think.

Our way of thinking Controlling a situation rather than just responding to it after it has happened requires that we think differently and think ahead. Human thinking leads to perceptions that again can affect our actions and behaviours. In other words, the way we think is decisive for our successes and failures – our possibility to excel. Therefore, the focus should be on the way we think; meaning, the way we reflect, analyse, reason and argue. Our thinking pre-defines the outcome of our decision.

How do we develop our ability to think in a proactive manner about our safety lifestyles? As it can be derived from John Dewey’s ‘thinking thoughts’, the only level of thinking defined as being proactive is when we consciously seek to learn before an event, and the actions we make are justified through some level of analytic thinking. Aim to think about your ‘safety lifestyle’ and apply a critical and reflective mindset. The most important duty of shipping organisations is to create an environment that allows its people to do so.
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The growing utilization of advanced information & communication technology (ICT) combined with operational technology (OT) onboard ships has taken an exponential course. What is considered a ‘technology blessing’ has transformed the ship from a ‘closed system’ to a system open to cyberspace. That has inevitably introduced new vulnerabilities and a number of significant cyber security threats to ships. In the face of this new cyber security challenge, IMO adopted Resolution MSC.428(98) – Maritime Cyber Risk Management in Safety Management Systems (June 2017) - as part of the mandatory regulatory framework for the shipping industry. This resolution was supplemented by the IMO Guidelines on Maritime Cyber Risk Management in MSC-FAL.1/Circ.3, which took full effect on 1 January 2021 as part of the mandatory International Safety Management Code (Resolution A.741(18)). The guidelines provide high-level recommendations for maritime cyber risk management.

The above was followed by management and technical guidelines developed by various key industry stakeholders. These include the Guidelines on Cyber Security Onboard Ships issued by BIMCO and other leading maritime organizations, the IACS Recommendations on Cyber Resilience (Rec. 166), etc. Risk management methodologies and information security standards such as the NIST Risk Management Framework (RMF) and ISO/IEC 27001:2013 have also been recognized and referred to in most guidelines.

To address security issues onboard ships, on 24 November 2021, IMO announced the appointment of a “Special Advisor to the Secretary-General on Maritime Security,” whose role is to support the provision of assistance and advice at the highest levels in IMO on maritime security matters (including cyber security) and facilitate external engagement to support IMO efforts in this regard.

It is evident that protection against maritime cyber risks in shipping is recognized as paramount in protecting human life and maritime assets (cargoes and ships). The maritime industry needs and would benefit from implementing a holistic management systems approach, including the Guidelines on Maritime Cyber Risk Management, ISO/IEC 27001, and the Guidelines on Cyber Security Onboard Ships. Third-party assessment and certification schemes will also add significant value to the protection of maritime stakeholders’ interests.

For this purpose, ISONIKE is launching the “Cyber Security Scheme” specifically developed for the maritime industry. The scheme provides third-party assessment & certification to meet maritime cyber security management system requirements. These requirements are defined in ISO/IEC 27001 and are supplemented by ISONIKE’s “Security techniques — Extension to ISO/IEC 27001 for Maritime Cyber Security Management — Requirements and Guidelines”. The certification scheme delivers an ISO/IEC 27001 Certificate supplemented by a Maritime Cyber Security Certificate. Information can be obtained by contacting ISONIKE at theodoros.spanos@isonike.com.

by Stefanos Spanos
Director / CTO ISONIKE Ltd
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The BMA is pleased to see the return of face-to-face visits finally and to be able to reconnect with maritime partners and friends in person. We are delighted to be returning to Posidonia this year after a long four-year absence due to the Covid-19 pandemic. The Greek market has been going - from strength to strength, despite the challenges that the pandemic has brought, and Posidonia will provide an excellent platform to see the Greek maritime industry take centre stage.

QUALITY AND EXCELLENCE REMAIN AT THE HEART

OF THE BAHAMAS MARITIME AUTHORITY SERVICES

As one of the top ten Flags in the world, The Bahamas, through the BMA, has a worldwide network of offices, including representation in Nassau, New York, London, Piraeus, Hong Kong and Tokyo, as well as representation through our global network of Inspectors and Recognised Classification Societies, all dedicated to providing expert advice and quality registration services to our valued customers to ensure that their ships remain operational. The BMA is committed to quality, compliance and continuous improvement, and expects the Owners and Managers of all ships registered with The BMA to share the same values.

From our Greek office, we are proud to offer our full host of services, including registration, seafarers and technical operations support. As an industry leading top-rated Flag, the Authority has again been placed very highly on the whitelists for port state control and consolidated its recognition by the United States Coast Guard through its QualShip 21 programme. This consistent level of performance serves to highlight that the Flag has continued to provide excellent customer service with operational support despite the difficulties of the pandemic. We recognise that this achievement is a testament to the determined efforts and adherence to quality onboard standards of our shipowners, managers and seafarers.

One of the reasons that The Bahamas remains regarded so highly is due to its leadership role within the maritime industry. The Bahamas has been a member of the International Maritime Organisation (IMO) Council continuously since 1999, which is an achievement that we are very proud of. Alongside this, The active level of engagement at the IMO and the International Labour Organisation (ILO) enables The Bahamas to effectively collaborate with industry stakeholders as a part of the COVID-19 global recovery efforts at the regulatory stage.

The BMA has taken a leading role in technological advancements and prides itself on its innovative way of thinking. We have been using an online system to allow Registered Owners and ISM Managers, or their duly authorised Manning Agents, to submit applications for seafarers’ documentation electronically, for more than 10 years now. The Bahamas Maritime Authority (BMA) has completely altered its way of working since the pandemic and has reduced its carbon footprint through remote working processes being more widely implemented.

We already had plans plotted out in our future roadmap to introduce more digital solutions, but we are proud of the fact we reacted to the pandemic swiftly and efficiently by prioritising the need to bring forward those services as soon as possible. Thanks to our new digital solutions, which include surveys and inspections being carried out remotely, we are now running a more smooth and effective service.

The BMA remains committed to providing a quality service to ship owners, managers and seafarers, which remains the backbone of everything we do. Looking ahead The BMA is focused on increasing its global representation, expanding its geographical reach and furthering industry collaboration through strategic partnerships.
THE CAPITAL FOR SHIP REPAIR & RETROFIT

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S&SYS was established as a spin-off company from the Machinery & Electric System team of Samsung Heavy Industries on September 1, 2017. Based on technologies and knowhow accumulated over 28 years in the shipbuilding and marine business, S&SYS has developed key equipment such as Ballast Water Treatment System, Ship Automation System, Marine Switchboard, Fuel Gas Supply System and Energy Storage System. S&SYS will continue to develop technologies at its independent industrial electronic research institute and lead the market while providing optimum solutions to clients with the technological competitiveness from Samsung Heavy Industries. Also, S&SYS will expand to various business fields to become the number one sustainable equipment company in the world. S&SYS has continuously researched and developed ECO friendly new technologies since it was founded in 1994, with a promise to provide the best quality and worldwide after-sales service.
It should have been a regular scheduled day for unloading of container cargo. However, when this Panamax container vessel was awaiting to berth outside a US port it faced a rudder steering failure. The rudder was not responding.

The vessel’s crew immediately reacted, and they were able to capture a video of the top of the rudder stock through an inspection port. This determined the reason why the rudder was not responding. The rudder stock was literally broken at the cone, and the rudder blade had dropped approx. half a meter. Crucial decisions had to be made fast. Should the vessel go for a dry docking and be towed a much longer distance, risking losing the rudder blade at sea, or should she go with an afloat repair solution? The decision was to stay. A decision that turned out to be a very fast and cost-saving solution.

With assistance from a tugboat, the 294 meters long container vessel was maneuvered into the inner anchorage. With the rudder blade and stock ashore and brought to a local workshop. MarineShaft got involved. A broken rudder stock and a damaged pintle left replacement as the only option. MarineShaft was able to offer a delivery time for only 15 running days. This short delivery time was only possible because MarineShaft had the raw material on stock – with class approval and ready to be cut and machined as soon as the order was received. The order also included manufacturing of a rudder stock lower hydraulic nut and a new pintle nut.

The new rudder stock was delivered with 4 mm oversize and the pintle with 10 mm oversize on the cones. The reason for this was to have sufficient material to machine in the rudder blade cones and be able to adjust the rudder blade cones if any misalignments were measured. Onboard the vessel, MarineShaft machined the rudder blade cones and castings. New O-rings had also been manufactured to ensure a tight seal between rudder blade lower casting and the pintle sleeve. For the in-water repair of the rudder horn Pintle bearing, it was necessary to build and setup a cofferdam. In cooperation with a local workshop and the underwater service company, MarineShaft assisted with replacing the pintle bush in the rudder horn.

An urgent repair like this requires trustworthy subcontractors working closely together ensuring and coordinating so timelines are kept. MarineShaft holds the right machine capacity and skilled workforce. It has the necessary equipment for on-site machining services and a team of certified engineers willing to step in with short notice to work 24/7.
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On April 5, 2022, in a ceremony at the presidential mansion hosted by the President of the Hellenic Republic, Mrs. Katerina Sakellaropoulou, distinguished Greek citizens were decorated for their contribution to the fields of Arts, Sciences, and broader society.

A GRATEFUL NATION

THE ORDER OF BENEFICENCE AWARDED TO ALIKI PERROTIS-KONSTANTOPOULOS

This decision was taken to commemorate the 47th anniversary of the Restoration of Democracy in 2021, following a proposal by Minister of Foreign Affairs Nikos Dendias. In this way, and according to the existing legislation, the President of the Hellenic Republic awarded honorary distinctions to Greek citizens with a significant contribution to their homeland.

One of the personalities being honoured was Aliki Perroti-Konstantopoulos, who was conferred as a Grand Commander of the Order of Beneficence in recognition of her long-standing and unwavering support of Greek society.

Aliki Perrotis-Konstantopoulos is a personality directly associated with Greek shipping through her father, the late Theodoros Konstantopoulos, founder of Konkar Shipping Agencies SA. Apart from his successful career in the shipping business, Theodoros Konstantopoulos was a great patriot and philanthropist. The memory of her father would inspire Aliki Perrotis to continue to offer generously and selflessly to Greek society throughout her life.

Aliki Perrotis-Konstantopoulos started her humanitarian activity at the age of 20, offering her services voluntarily at the Agia Sofia Children's Hospital for fifteen years. The leading example of her contribution to Greek society is undoubtedly the erection of the Konstantopouleio General Hospital in Nea Ionia during the 1980s, in memory of her parents, Theodoros and Maroula, a hospital also equipped with the most modern medical equipment. Throughout her life, Aliki Perrotis-Konstantopoulos has ensured that all the medical needs of the wider urban area of Nea Ionia are met, with the most recent example being the purchase of a state-of-the-art angiographer for the Cardiology Department of the Konstantopouleio General Hospital.

Over time, the central pillar of Aliki Perrotis-Konstantopoulos's philanthropic activity would be helping with the needs of the new generation, especially in matters of health and education.

In this context, she founded Perrotis College in Thessaloniki in 1996 in loving memory of her late husband, Dimitris Perrotis. With her continuous and uninterrupted care, Perrotis College has been expanded and now includes a Student Residence, an Educational Center, and the “Aliki and Dimitris Perrotis” Library.

The most recent efforts of Aliki Perrotis-Konstantopoulos resulted in the reform of the Intensive Care Unit and the Emergency Department of the Evangelismos General Hospital. At the same time, she was one of the main sponsors for the renovation of the surgical department at the Athens Naval Hospital, and she recently inaugurated two Information Halls at the Hellenic Military Academy.

In 2020, the jury of the Efkranti Awards chose to award Mrs. Perroti-Konstantopoulos in the Contribution to Society category, acknowledging her long-standing
concern for the well-being of her fellow human beings. The Greek state recognized her numerous acts of benevolence and her countless “unseen” acts of generosity to her disadvantaged fellow citizens, bestowing the Order of Beneficence upon her. The President of the Hellenic Republic also awarded:

- The Order of the Saviour, Grand Commander Class to Linos-Alexandre Sicilianos, Professor of Public International Law and Dean of the Athens Law School. Prof. Sicilianos was the first Greek President of the European Court of Human Rights in Strasbourg. He has been involved with passion and dedication in the sensitive field of human rights for many years. His scientific work in Greek, English, and French is dedicated to public international law, with a particular contribution to promoting human rights.

- The Order of the Saviour, Gold Cross class to Albert Bourla, CEO of Pfizer. His life constitutes a chronicle of victory in the field of health for the benefit of the common good. Coming from a family of Holocaust survivors, he managed to realize his vision and apply scientific innovations that led to the discovery of the coronavirus vaccine, making the whole world believe that the impossible is, in fact, possible.

- The Order of Beneficence, Gold Cross class to Victoria-Margarita Karelia, President of the George and Victoria Karelia Foundation. This charitable foundation was established in 1993 to strengthen and promote cultural, social assistance, and folk tradition activities. During her address at the award ceremony, the President of the Hellenic Republic, Mrs. Sakellaropoulou, stated: “Ladies and gentlemen, it is with great pleasure that I welcome you to the presidential mansion to honor four great Greek men and women for their work and contribution to our country. All of them have an important path, each in their own field, and have been distinguished and recognized both inside and outside the borders of our country”. Mrs. Sakellaropoulou spoke about the

Mrs. Aliki Perotti-Konstantopoulos with the Order of Beneficence medal awarded to her by the Greek State
The granddaughter of Aliki Perrotis-Konstantopoulou, Theodora Pikros-Valentis, receives the Order of Beneficence from the President of the Hellenic Republic.

The granddaughter of Aliki Perrotis-Konstantopoulou, Theodora Pikros-Valentis, saying that she is: “a benefactress who, with her philanthropic work in the fields of health and education, chose a life of social contribution to our fellow human beings. She proved that life has greater value when we offer, help, and support those in need. She is a permanent volunteer on a selfless path characterized by love for her fellow human. Through her, we also honor her father, the benefactor Theodoros Konstantopoulou, whose name was associated with the homonymous hospital of Nea Ionia”.

The medal of the Order of Beneficence was received by the granddaughter of Aliki Perrotis-Konstantopoulou, Theodora Pikros-Valentis. During her speech, she emphasized the sensitivity and selflessness with which her grandmother has helped her fellow human beings while also highlighting the fact that her life is a great legacy for young people.

The honorary decoration of Aliki Perrotis-Konstantopoulou by the President of the Hellenic Republic is a symbolic moment that highlights the contribution of members of the shipping community in the fields of social welfare and charity. At the same time, it is a recognition of the contribution of distinguished personalities to the country and its citizens: Aliki Perrotis-Konstantopoulou, with her characteristic solidarity and love for her fellow citizens, is a paragon of virtue, setting the example for Greece’s new generation.
There is a fine line that separates leaders from executives.

At Alba, we help develop a business culture that would breed sustainable and innovative leaders. Our Shipping programs are in line with the most recent developments in the shipping industry, recognized by international professional bodies and strongly supported by the Greek shipping community, thus offering significant networking opportunities and hands-on activities. Go ahead, find your course and futureproof your career.

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LEGENDS & MILESTONES

Snapshot from the launching of the SD-14 type ship “Miss Papalios”, at the Skaramagas Shipyards. The ship was launched in 1969, on behalf of N. Papalios, within a period of just 10 weeks from the beginning of its construction.
A night to remember: The first publisher of Naftika Chronika, Dimitrios Kottakis (centre) is honoured by the Greek shipping community of New York in 1957, on the occasion of the magazine’s 25th birthday. Surrounding D. Kottakis are, among others, P. Fafalios, I. Theodorakopoulos, J. M. Carras, Ch. Kioseoglou, G. Moatsos and F. Papachristidis.

19th of August 1959: Ioannis Theodorakopoulos (first from left) during the launching of the tanker “National Defender” in Newport News Shipyards in Virginia. The ship was characterized as a “super-tanker” and was one of the biggest vessels built in the US at the time.
Daniel K. Ludwig (1897-1992) was an American shipping magnate who’s broad and diverse business empire made him one of the most powerful -if secretive- entrepreneurs of the 20th century. Ludwig was No1 on the Forbes 400 List of 1982. Throughout the 1950’s and 1960’s Naftika Chronika would regularly mention Daniel K. Ludwig as a major business opponent of Aristotelis Onassis and Stavros Niarchos.

Built in 1969, the “Universe Aztec” was the biggest bulk carrier owned by Ludwig in the early ’70s, with a capacity of 160,000 dwt.

“Universe Guardian” was a tanker built for Daniel K. Ludwich in Japan in 1975 and had a capacity of 270,000 dwt. The American businessman was one of the first to recognize the importance of Japanese shipyards and was highly influential in post-war ship “gigantism”.

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“A creation of the Elefsis Shipyards”: The bulk carrier “Althea”, with a capacity of 43,000 dwt, was built for Prof. Stratis Andreadis in 1974. The Elefsis Shipyards were founded by Andreadis in 1962 and were a major part of his business activities.
EASTERN MEDITERRANEAN MARITIME LIMITED

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The “Hellenic Challenger” being launched at the Skaramagas Shipyards in 1972. The ship was of the SD-14 type and was built for the “Hellenic Lines” company of Pericles Kallimanopoulos.

Entrance of the Posidonia Exhibition at the Zappeion Megaron in 1974.
The HullSkater is a revolutionary onboard solution specially developed for proactive cleaning. Together with the premium antifouling SeaQuantum Skate, Jotun Hull Skating Solutions will maintain a clean hull, even in the most challenging operations.

Operational needs arising from a dynamic market in combination with challenging environmental conditions increase the risk of fouling. The end-result being increased fuel cost and Green House Gas emissions. To combat fouling, Jotun Hull Skating Solutions is engineered to keep the hull fouling-free at all times. This groundbreaking approach is now in the final verification stage, in collaboration with leading industry partners.
Over time, many different ships and boats were designed and built for various uses and purposes, constituting a large part of Greece’s maritime history and heritage. Six partners, i.e., the Eugenides Foundation (Coordinator), the National Technical University of Athens (Scientific Coordinator), the University of the Aegean, the University of West Attica, the Institute of Technology & Research, and the Green Maritime Technologies PC, joined forces under the so-called “NAVS” project aiming to showcase and enhance this maritime heritage using new cutting-edge technologies. The project was launched in June 2020 and is co-financed by the EU’s European Regional Development Fund and Greek national funds through the Operational Program “Competitiveness, Entrepreneurship, and Innovation.”

Specifically, in the project context, maritime historical events and traditional shipbuilding are digitally recorded and captured in a faithful and detailed three-dimensional display, with all the relevant historical and economic documentation provided. Three exhibitions for the public are included in this project’s deliverables, which are on display at the Eugenides Foundation. The “Traditional and Historical Ships” exhibition focuses on promoting traditional shipbuilding art in Greece through the presentation of historic and traditional boats. It describes all stages of the process, from digital scanning to modeling and 3D printing, by presenting selected samples (Greek brig, trechantiri, karavoskaro, liberty, etc.) of 3D printed models of ships in scale.

The “Trireme and the Battle of Salamis” and the “Battle of Navarino” exhibitions have an anniversarv character and concern two significant historical moments in the naval history of Greece and Europe: The Battle of Salamis in 480 BC and the Battle of Navarino in 1827. The exhibitions aim to showcase the role of ships in these historical events. The material of the two exhibitions is available to the public through the use of virtual environments and multimedia applications.

The digitized material and the relevant data of the project are intended to constitute the basis for a digital repository of Greece’s maritime history and heritage. This repository’s historical and cultural stock may be utilized in a range of applications, such as building 3D ship models, creating virtual interactive experiences, or even assisting in research on maritime history and shipbuilding art and tradition.

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The international shipping industry is the lifeblood of the world economy, and as a leading global airline, Qatar Airways is truly proud to support the crews who, along with us, keep the world moving.

Last year, Qatar Airways won the ‘Investment in People’ accolade from Seatrade Awards 2021, in recognition of its contribution to the welfare of thousands of seafarers. The airline not only played a leading role in the repatriation of mariners stranded by the pandemic but also continued to facilitate essential crew changes to support the global supply chains.

The global COVID-19 pandemic created unprecedented challenges for the aviation industry, despite this Qatar Airways never ceased operations and worked diligently to take people home safely and reliably throughout the crisis. Since the start of the pandemic, Qatar Airways has carried more than 500,000 mariners for both repatriations and crew changes. In addition, the airline operated more than 130 charters carrying over 35,000 workers.

The world’s first airport lounge for the exclusive use of seafarers and offshore workers has surpassed more than 50,000 visitors since it opened its doors in late 2020. Located at Qatar Airways’ hub at Hamad International Airport in Doha, the Mariner Lounge was officially opened by the Group Chief Executive of Qatar Airways, His Excellency Mr. Akbar Al Baker.

The provision of dedicated lounge facilities provides ship’s crews and those working in offshore industries travelling with Qatar Airways an exclusive and luxurious haven during their journeys. In addition to an international selection of food and beverages, facilities include unlimited high-speed wi-fi, shower facilities, a television area, reading materials and a Business Centre.

Qatar Airways Group Chief Executive, His Excellency Mr. Akbar Al Baker said: “We offer something no other airport or airline in the world currently provides – a peaceful space for these key maritime workers to relax during their flight transfer as they make their way home or to their next posting. I hope many more maritime workers will sample our
hospitality at the Mariner Lounge.”
Qatar Airways continues to support its corporate customers with services such as its revamped “Beyond Business” corporate rewards programme to offer more benefits to more businesses. First launched in January 2019, the new and improved “Beyond Business” caters to companies of all sizes, offering greater flexibility and tailored business travel solutions.
The “Beyond Business” programme also features dedicated account management and online portal, priority baggage handling for employees traveling in economy class, Privilege Club tier status offers and recognition for a seamless business travel experience.
Further catering to its corporate clients, Qatar Airways recently launched a voluntary carbon offset programme for corporate customers. This initiative will enable corporate and trade clients to offset their own carbon emissions via a dedicated web portal at any time before or after a flight.
The programme allows its corporate clients to offset or reduce the carbon emissions associated with their business travel, and empowers them to make sustainable choices. With this, companies work towards their sustainability goals while they collaborate with the global airline to advance their carbon neutrality goals.
AIR FRANCE AND KLM: BRINGING TOGETHER GREECE’S MAJOR PLAYERS

Air France and KLM Royal Dutch Airlines hosted the 1st Marine Day in Athens on 13 April 2022, bringing together more than a hundred high-ranked professionals from the Marine and Offshore Business. The dynamic role and the importance of the Maritime Segment and their correlation and contribution to economic growth were presented during the event. KLM President & CEO Pieter Elbers attended the event, highlighting the importance of international shipping and the strong presence of the Greek shipping industry, and their outstanding support during COVID. It is the first time that the airline industry has hosted a marine event in Greece; the intention is to organize this as a recurring event in coming years.

“Greece and Cyprus represent the most important markets for us in terms of Marine and Offshore traffic. The COVID pandemic has led to a backlog in transporting shipping crews and a growth in
the worldwide shipment of goods via air and sea. This has resulted in a significant increase in the Marine business. In challenging times, more than ever, the M & O traffic has been of utmost importance for us,” said KLM President & CEO Pieter Elbers.
The 1st Marine Day consisted of two sessions. During the morning session, professionals and specialists from the wider shipping industry thoroughly presented the industry’s definition, vision, current situation, and future. In the evening, Air France and KLM teams, in partnership with Delta Air Lines, hosted a cocktail reception expressing their appreciation to top Marine & Offshore Companies and Shipping Trade Partners for their long-time commitment.
“Air France and KLM operate around the world, offering an extended network and a vast choice of destinations, continually expanding. We have been working closely with all marine and shipping sectors for many years and have established incredibly strong bonds with them in Greece and worldwide. Our aim for the years to come is to continue to deliver our services and this Marine Day is an opportunity for us to express our appreciation to the Shipping Community for their trust, support, and collaboration over the years,” said Mr. Yiannis Pantazopoulos, Regional Manager Air France-KLM for Greece, Cyprus, and Turkey.

OPTIMISM AGAINST THE BACKDROP OF DEMAND RECOVERY
The aviation industry is optimistic about the short-term future as, after months of sluggishness, demand is recovering. According to a report by the Associated Press, American Airlines estimates that it will return to profitability in the spring of 2022 as demand continues to grow.
“The demand environment is very strong. As a result, we expect to be profitable in the second quarter based on our current fuel price assumptions,” American Airlines’ new CEO Robert Isom said in a statement.
Several factors have played a significant role in the optimistic assessments, such as the easing of pandemic travel restrictions and increasing business travel. In fact, corporate bookings were at their highest levels since the start of the pandemic. However, despite the positive signs, the aviation industry is facing significant challenges. Higher fuel prices are in the spotlight, with American Airlines’ related costs rising more than 100% year on year. Finally, it is worth noting that other US airlines, such as Delta Air Lines and United Airlines, have also made optimistic estimates.

EUROCONTROL EXPECTS 9.3M FLIGHTS IN 2022
The latest EUROCONTROL Traffic Scenarios for the period April to December 2022 predict steady growth between April and peak-summer, reaching 89% of 2019 traffic by August in the Base Scenario, with this level gently rising to end the year at 92%. This sustained recovery will translate into around

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AIRbus and Kawasaki Heavy Industries partner to study the use of hydrogen

Airbus and Kawasaki Heavy Industries (Kawasaki) have signed a Memorandum of Understanding (MoU) to work together on the preparation of the hydrogen-fueled ecosystem. The scope will include different aspects of the hydrogen supply chain, from hydrogen production to its delivery to airports and transfer onboard aircraft.

The MoU was signed at a ceremony in Tokyo, attended by Stéphane Ginoux, Head of the North Asia region for Airbus and President of Airbus Japan, and Motohiko Nishimura, Executive Officer and Deputy General Manager, Hydrogen Strategy Division, Kawasaki. Through this initiative, Airbus and Kawasaki will jointly prepare a roadmap to address challenges and define an advocacy plan on hydrogen aviation needs. Both parties will also pioneer the deployment of a hydrogen infrastructure for aviation with a particular focus on the development of Airport Hydrogen Hubs.

EGyptAir is celebrating its 90th anniversary

The national carrier of Egypt, and a Member of Star Alliance, EGYPTAIR is celebrating its 90th anniversary this May. Since its establishment in 1932 and over its history, the airline has proved to be a preferred legacy carrier to millions of passengers every year. EGYPTAIR connects its customers to Egypt’s top leisure destinations, namely Sharm El Sheikh, Hurghada, Luxor, Aswan, Marsa Alam and more. In light of its expansion plan, EGYPTAIR is also inaugurating service to new destinations such as Kinshasa and Dublin, and to re-operate a number of destinations that have been suspended due to Covid-19 pandemic such as Algeria, Mumbai and Bangkok.

EGYPTAIR utilizes a young fleet of 66 aircraft including 17 wide body aircraft; Boeing 777-300ER, Boeing 787-9 Dreamliner, Airbus A330-300, Airbus A330-200 in addition to 49 Medium and narrow body aircraft; B737-800, Airbus A320 Neo and Airbus A220-300. Further, the airline is planned to deliver 2 Boeing 787-9 Dreamliner and 7 Airbus 321 till 2024.

The airline offers state-of-the-art onboard services starting from the highly qualified cabin crew, variety of beverage and hot meals on long haul flights and many of the flights to European destinations with plans to re-introduce hot meals on all international destinations soon. The airline provides a great variety of pre-ordered meals that cater for every customer’s taste. The airline also offers generous amenity kit to keep the customers well treated throughout their whole flights.

The first country in the world to ground planes due to high fuel prices

Nigeria is the first country worldwide to discontinue flights due to high fuel prices. According to their union, airline operators “will discontinue operations nationwide” until further notice. Only one company, Ibom Airlines, chose to opt out of shutting down operations, citing its obligations to its customers. Nigeria’s 23 airlines said they had been subsidizing flights for the past four months but can no longer absorb costs after the country’s jet fuel price more than tripled to $1.68 per litre.
Maran Gas Maritime has taken delivery of its latest LNG carrier “John A. Angelicoussis”, named in honor of the late John A. Angelicoussis. The vessel was delivered by Daewoo Shipbuilding & Marine Engineering (DSME) on the 31st of March 2022 and is the last of a long series of vessel incorporating in its design all the know-how and experience gained since 2018, when MGM took delivery of the first MEGI LNGC. Moreover, this design sets the foundation for the next newbuilding orders placed in DSME, with all the innovations and technologies tested and applied.

“John A. Angelicoussis” is able to carry 173,400 cbm of LNG in its four (4) cargo tanks insulated with GTT’s most robust and reliable containment system. It is propelled by two (2) MAN-ES 2-stroke dual fuel engines (ME-GI) of the latest design in combustion characteristics offering class lowest specific consumptions with minimum methane slip. The power generating plant consists of four (4) dual fuel Wartsila generator engines of optimum cylinder size and total number targeting to minimize greenhouse emissions. All engines are supplied with compressed LNG via a Burckhardt high pressure compressors duet, both being able to accommodate high gas demands reliably either individually or in parallel. Finally, the cargo tank pressure is again managed by the DSME patented PRS/FRS reliquification system optimized for the specific application.

Most importantly, “John A. Angelicoussis” is the first MGM vessel and one of the first in the LNG world fleet featuring Shaft Generators and an Air Lubrication System. Both systems perform excellently in reducing the daily consumption by about 3.5 tons with a corresponding equivalent greenhouse emissions reduction of about 25 tons per day, making the vessel one of the most energy efficient and low carbon emitting LNG carrier and of course the Company’s crown jewel. Vessel can comply with all latest international and forthcoming environmental regulations by achieving an Energy Efficiency Design Index (EEDI) as much as 30% below the actual (Phase III) requirement.

Upon delivery, the vessel entered a long-term charter with the long-term partner to ASGL, Chevron Shipping.

### Name
- John A. Angelicoussis

### Cargo Capacity
- 174,204 cbm

### Class
- Lloyd’s Register

### Type
- LNG Carrier

### DWT
- 92,598.6 mt

### Length
- 294.9 m

### Shipyard
- DSME

### Flag
- Greek

### Delivery date
- 31st March 2022

### IMO No.
- 9901350
Euronav has enhanced its fleet of Suezmax tankers with the addition of two newbuildings. The sister vessels “Cedar” and “Cypress” were delivered to the company in January 2022. Both vessels were built by Daehan Shipbuilding Co. Ltd and fly the Greek flag.
MARITIME NUMBERS

1,888+
the number of participating companies as exhibitors in Posidonia

6.6%
the estimated growth of the global bulk carrier fleet in 2022

6,200,000
TEUS
the containership deliveries expected between the beginning of 2022 and the end of 2024

39,485
the number of participants at the Posidonia 2018 exhibition

85
countries will be represented at the 2022 Posidonia Exhibition

24
National Pavilions will be participating this year’s Posidonia Exhibition

38%
of the tonnage currently on order worldwide will be able to consume alternative fuels

55.6 MILLION
the deadweight tanker capacity currently on order

11.1 YEARS
the average age of the global bulk carrier fleet
Over 40 years of experience in the maritime industry

In excess of 30 million tons of cargo transported annually

Safe operation with 4 point focus:
Environment, Human Resources, Cargo and Vessel

Quality Management
(ISM, ISPS, MLC, ISO9001, ISO14001, ISO50001 & OCIMF TMSA3)
Top Performance, Unique Flexibility and Fairness, delivered

Join Signal tanker pools and enjoy the benefits of a global, technology-enabled commercial operator.